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A Lecture
ON
SLEEP AND SLEEPLESSNESS.

Delivered at the Great Northern Central Hospital on Dec. 13th, 1907,

BY ALEXANDER MORISON, M.D. EDIN., F.R.C.P. LOND. AND EDIN.,
PHYSICIAN TO THE HOSPITAL.

GENTLEMEN,—A human being does not cease to be man when he becomes a patient. He remains such whether the host of a tapeworm or streptococcus or the subject of any other malady. This incontestable fact would not require mention were it not that it appears at times to be lost sight of when attention is directed too exclusively, as may happen, to the invading disease. Whether in health or in illness the mind plays an important part by the influence it exerts upon the body. This is more noteworthy in the case of the disorder of some organs than of others, and in none perhaps is it more so than in that of the cardio-vascular system which is not under the control of the will but is very sensitive to the influence of the emotions. It is obvious, therefore, that interference with the periodic repose of the organ of mind has a practical importance which justifies its particular study by the physician. A man may die exhausted "from the top" when other physical dangers threatening him have been successfully overcome.

While the hospital patient is often the victim of insomnia the satisfactory study of sleeplessness is best made in private practice, and I feel in addressing this audience on this subject that I am speaking to many who must have had a large experience of this condition. It is, moreover, one which requires a considerable experience both of disease and of life to discuss with advantage. It is probably because defective sleep is associated with so many states that text-books of medicine, notwithstanding its importance as a symptom of disturbance and cause of still further exhaustion, do not treat it fully under one heading. Like dropsy, it is referred to, if mentioned at all, in connexion with its causal conditions, and if this were done more systematically there would be no serious ground of complaint, but this is not the case. Comprehensive monographs and instructive papers have, however, been published from time to time on the subject and will repay perusal. Of these, it will suffice if I mention the monographs of Cappie and Macfarlane and the practical papers of Sir James Sawyer and Sir William Broadbent. In connexion with the purely scientific investigation of the subject the names of Durham and Donders deserve mention as early investigators, and since their time other physiologists and physicians have recurred to a subject which is always of interest.

In the present lecture I propose discussing so far as I can the factors which underlie sleep and wakefulness, the discrimination of one type of insomnia from another, the significance and prognosis of different varieties of sleeplessness, and the rational treatment of the condition. In short, I desire to discuss as briefly as possible, but with adequate fulness, the principles, so far as we can explain them, which underlie the etiology and treatment of insomnia.

Sleep and sleeplessness are synonymous with unconsciousness and consciousness. Intermediate degrees of these states are, in various proportion, conditions of partial unconsciousness or of partial consciousness—the dream state. Consciousness, whatever its psychological analysis or definition, is a property of the nervous system and of the highest plane of it—namely, of the grey matter of the cerebral cortex. Reflex actions we know may be provoked in decapitated animals and apparently even purposive movements manifested by them. The decapitated frog may raise its foot to all seeming in order to brush away a stimulation of the surface of the trunk, and the beheaded turtle may snap its jaws for a length of time after the severed head has lain far from its body. But the "spinal soul," if it exist at all, is peculiar to lower types of animal life, with which the physician has no immediate concern, and physiology teaches us that as the cortex is removed in layers unconsciousness deepens, although the functions of visceral life may continue little impaired. We may therefore conclude that, whatever the actual seat of consciousness, it stands in close relation to the cells of the cerebral cortex. Its manifestation among the higher animals is not possible without the agency of some cells in the brain any more than is the function of any other viscus without that of the cells proper to it.

Recent methods of investigating the anatomy of the cerebral cell have shown how far-reaching are its afferent sensory parts or receptive roots and their collateral tentacles or gemmules, and also how directly its efferent or executive processes transmit the nervous influence to the nerves or to the next in a series of cells conveying the motor impulse. In a sense the receptive radicles of a motor cell may be regarded as its sensory or afferent portion. This view of the relation of radicles or dendrites to cell-body and efferent fibres is regarded by those who accept this theory of the transmission of nervous influences as illustrative of what has been called the "law of dynamic polarisation"—that is, that nerve force entering at the receptive pole of a cell issues from the other, the axonic end, according to some by passing through the cell unaltered, and in the view of others modified by the action of the transmitting cell itself. Modern research has also shown the cell body to have a very complex organisation. Staining methods reveal constituents which hold and others which refuse the stain—the so-called chromatic and achromatic portions of the cell. Moreover, some of these constituents stain differently from others under the varying conditions of rest and activity. Thus some stain with certain reagents when the cell is exhausted and others with other stains when the cell is refreshed by functional repose. To these points I shall have occasion to refer again.

But consciousness, we also know, may be lost when animals are deprived of blood and restored with a renewal of the circulation. It follows, therefore, that the quantity of blood and character of the circulation have an influence upon the condition of the cells which manifest consciousness or unconsciousness as the case may be, and that whether unconsciousness be the result of a swoon or of sleep. We know further that substances introduced into the circulation may render an animal soporific or unconscious or, on the other hand, delirious and excited. The quality of the blood also has, therefore, an influence in the maintenance of consciousness or in the production of unconsciousness.

That the physical conditions obtaining within a closed chamber such as the skull, capable of resisting the atmospheric pressure in great measure, if not altogether, have an influence upon the character of the circulation within the skull may be granted. That the intracranial circulation, that is, differs in a measure from that in portions of the body not so protected, may be admitted. But the invariability of the intracranial blood content, which the doctrine of Monro assumed and on which some theories of sleep-production have been based, can no longer be regarded as a fact. That doctrine lived long and died hard, if, indeed, it be yet quite dead; so long indeed did it last that support for it was until recently sought in the assumed absence of innervation of the intracranial blood-vessels, because the innervation of these vessels had not been demonstrated. In a series of lectures which I delivered in Edinburgh ten years ago on the relation of the nervous system to visceral disease I was able, however, to show from specimens I stained in the laboratory of this hospital that the intracranial vessels were richly endowed with nerves, and, not only so, but that these nerves bore peripheral ganglionic cells. I afterwards learned that Obersteiner had previously stained these nerves and others also have done so since. My preparations were from vessels in the pia mater, but Ford Robertson figures an innervation of vessels in the cerebral cortex both of quadrupeds and men.[1] We therefore know now that intracranial vascular innervation is general and indubitable.

Some physiologists, notably Leonard Hill, have contended that, these facts notwithstanding, these nerves cannot be made experimentally to vary the calibre of the vessels they innervate, and for Hill the key to the intracranial lies in the splanchnic circulation.[2] It is manifest that this conclusion is difficult to accept, as nature is as averse to distributing functionless structures as she is to loving vacua. Observers have, moreover, shown that there is as direct a relation between cerebral activity and blood-supply as there is between the activity of any other group of functionally active cells and *their* blood-supply. This relation even Hill admits,

[1] Pathology of Mental Diseases, p. 163.
[2] Schäfer's Physiology, p. 146, Edinburgh and London, 1900.

although he ascribes it to variations in the splanchnic and somatic circulation.

What then is sleep? As night succeeds day and the parched and dusty earth is steeped in the cool and refreshing moisture of the sunless interval; as rest succeeds toil, and the strain of exertion stretches itself out in the grateful relaxation of mental and bodily effort; so sleep, in normal circumstances, wraps in the oblivion of unconsciousness the whole being exhausted by a term of conscious activity. The machinery of life cools down in sleep, the temperature falling slightly. The pulse on the whole becomes slower and it may be somewhat irregular. The depth of respiration is increased and its frequency diminished, as anyone may note who has the misfortune to hear another snoring. The eyes close and exclude all light. The pupils contract in proportion to the profoundness of sleep. The activity of all secretions is lessened. The work of life is carried on with a minimum of friction.

In this series of phenomena a difference is to be observed between the behaviour of the organs of voluntary motion and the involuntary organs. The voluntary muscular system is relaxed; its reflex irritability is lessened and its centres of motor activity are placed in abeyance. On the other hand, taking the pupil as a type of involuntary organic action, for we may leave out of consideration its accommodative faculty, we find that with the loss of sight and the closure of the eyelids the pupils contract as if still further to exclude any chance of sensory stimulation by light. During consciousness the exclusion of light, as we know, is associated with dilatation of the pupil. Now we also know that this contraction of the pupil, so characteristic of normally recurring unconsciousness, that is of sleep, is not necessarily associated with *abnormal* unconsciousness or the stupor attending certain diseased states. In many such conditions the pupil is widely dilated or varies in the degree of dilatation in one eye as compared with the other.

On the other hand, from lesions in certain parts of the brain and as the effect of certain drugs, unconsciousness is associated with an equal contraction of both the pupils, indistinguishable from that which attends normal sleep. The pupillary changes in sleep therefore are unlike the flaccidity of voluntary muscle in the same state, for the withdrawal of light from the reflex arc of optic nerve, pontic centre, and oculo-motor result, are not those one would expect as a result of such withdrawal of stimulus. Nor can the contraction of the pupil in sleep be attributed to a relaxation of the motor-sympathetic innervation of the radiating fibres of the iris, as there is evidence of the potential and actual activity of the sympathetic in the vaso-constriction of the cerebral vessels which has been noted by Durham, Donders, and others. There has been no adequate explanation of this marked difference in the behaviour of the pupil as compared with voluntary muscle, but the conclusion may legitimately be drawn that sleep is the resting period of consciousness and of all voluntary actions and only indirectly refreshes the ever-labouring heart and other organs whose perpetual activity is necessary to life. The unconsciousness of death and of apparent death, such as that associated with profound syncope, is coupled with a widely-dilated pupil and the complete loss of irritability of all organs, voluntary and involuntary.

The essential or primary element in the *mechanism* of consciousness is the brain cell—not its afferent channels of stimulation, not its blood-supply, but the cell itself. Not that the cell itself as apart from these could manifest consciousness, but it is evident that it is only in relation to the cell that the latter have importance. The condition of the peptic cell in the stomach during fasting and digestion, of the urinary cell in the kidney, of the essential cell of every other organ during activity and rest respectively, supports this argument. In sleep blood still irrigates the brain cell, and its processes are presumably still in connexion with it and with the rest of the body.

I have said that the primary element in the mechanism of consciousness is the brain cell, but behind all the factors named is the mystery of life. It might more truly perhaps be asserted, that consciousness is life manifest in certain brain cells, just as the exercised function of any other organ is life manifest in the cells proper to it; the brain or nerve cell, however, governs every other functionally active cell in the body in a way in which the latter do not govern it; nervous influence is as universally distributed as the blood. Since the discovery of the far-reaching processes of the nerve cell, as revealed by modern staining methods, it has been suggested that sleep may be due to the withdrawal cellwards or modification of these processes or of portions of them, and their loss of touch, in consequence, with afferent sources of stimulation. But of this there is no proof. Even assuming, however, such a hypothesis to be possibly correct, such a withdrawal would be a consequence, not a cause, of changes in the brain cell itself, and the fact that the sleeper may be wakened by sensory stimulation in greater or less degree proportionate to the profoundness of sleep rather argues that the afferent channels of sensibility still have touch of the external world, although the centre, the cells on which they converge, may not respond to stimuli falling upon them. It is also noteworthy that noises or stimuli which the mind has interpreted when awake frequently act rather as a lullaby than as a disturbance to sleep, while much lesser noises, not so interpreted and to which the individual has not become accustomed, serve frequently to rouse the sleeper to consciousness. The conclusion therefore seems to be warranted that a change in the cell itself is the primary cause of sleep, and that vascular and neural changes associated with sleep are effects, not causes, of the condition. What the essential cause of these intracellular changes is is unknown, but that they exist is indubitable. In the absence of more precise knowledge they can only be termed chemico-vital.

Normally a measure of exhaustion of the nerve cell from the exercise of function appears to be the essential cause of sleep. With this there may also be exhaustion of other organs, and more especially of the voluntary muscular system. But however the latter may participate in sleep-production the primary cause is the *need for rest* on the part of the brain cell itself, and its essential nature that chemico-vital change in it of which this need is the expression—a change of which we know no more at present than we do of the essential nature of life itself. Moreover, some interesting observations have been made on the appearance of nerve cells in conditions of functional activity and repose, and which can only, I think, be regarded as evidence that the cell creates as well as transmits energy. These visible changes in the bodies of cells respectively normally active and exhausted or at rest have been studied by many observers, and Ford Robertson thus summarises the general result of these investigations: "During normal activity the chromophile substance is utilised by the cell and slowly diminishes in quantity. At the same time the fuchsinophile granules of Levi increase considerably in numbers. The nucleus undergoes an increase in volume and the particles of chromatin adherent to it tend to become elongated. During rest the chromophile substance gradually accumulates again, the fuchsinophile granules diminish in numbers, and the nucleolus (nucleus?) assumes a smaller volume. When the energy of the cell is exhausted by prolonged or excessive activity, the cell-body and the nucleus are distinctly diminished in volume; the chromophile substance of the cytoplasm is small in amount and appears diffusely granular instead of forming local aggregations."[3] These observations are surely sufficient to indicate that the organ of consciousness is the brain cell, or rather certain brain cells, in touch, on the one hand, with afferent influences by their receptive radicles and, on the other, putting forth the products of their activity by efferent channels, the whole being sustained in action by the blood, the nutrient fluid which bathes the organ of consciousness and source of mind.

But before passing from this subject we must remember that notable distinction between the results of mental cellular action and the action of unthinking cells, such as those of the stomach, liver, kidney, and spinal cord, or even of such cerebral cells as those the function of which is not emotional perception and ratiocination—namely, that the products of the organ of consciousness are more or less permanent, while those of unthinking cells are repeatedly produced, but each crop or series is itself transient and eliminated from the system. This permanent product of the organ of consciousness interests us on the present occasion because it may in its turn become a source of stimulation of the thinking cells. Itself an efferent product of their energy it may become in its turn an afferent source of stimulation. Memory, like thought, is cumulative. It has a beginning; much of it probably has an ending; some of it possibly is unending; but to inquire as to this is beyond our present purpose. These thoughts lead us to a short

[3] Pathology of Mental Diseases, p. 226; Edinburgh, 1900.

consideration of some psychological points bearing upon our present theme.

Perhaps no subject has exercised more the ingenuity of the thoughtful than the nature and actions of mind, and classifications of the different manifestations of human consciousness have been very numerous. The phenomena of consciousness appear to be subjective and objective, involuntary and voluntary; I had almost said passive and active, but passivity is properly applicable only to the reception of a stimulus by the organ of mind. The "Senses and the Intellect," to use the title of Bain's well-known treatise, perhaps expresses this division sufficiently. *Feeling* and *expression*, in thought, word, and deed, embrace all phases of mind, for all these may be phases of an internal process of which there is no overt manifestation. Feeling in the first instance can of necessity only be appreciated by the individual. It is purely subjective. A thought need not be apparent to others, a word need not be uttered, and an act need not be manifested. A thought is an act, a word is an act, and a resolve is an act. They are all within the sphere of will, to be liberated or repressed, as the individual desires.

To enter at length upon the field of fine distinctions in moral philosophical terminology is, however, scarcely germane to our present purpose. It will suffice if I explain with greater detail what I mean by subjective and objective, involuntary and voluntary phases of the operations of mind. The subjective operations of mind deal with the *feelings*—with love, self-esteem, hate, joy, grief, hope, fear, certainty, uncertainty, satisfaction and dissatisfaction, however they may be provoked, and however they may be further divisible in relation to the desires and appetites of our nature. Primarily they appear to spring from our possession of life and the impulse to preserve and perpetuate it. When we cease subjectively to feel, our mental operations become objective; our feelings shape themselves towards intellectual effort and transpire in thought, word, and deed. Such action completed, we may again lapse into satisfied or dissatisfied subjectivity. We may feel satisfied or dissatisfied. Satisfaction is rest; dissatisfaction is unrest or continued stimulation. This may appear to some but prolix verbiage, but I hope to show that it has a bearing upon our theme in my endeavour to explain the phases of cellular action which underlie consciousness and which tend, according to their nature, to encourage or to thwart the normal advent of rhythmical sleep.

Another point of importance in relation to sleep and sleeplessness is temperament. While man may be regarded as essentially one in his nature—scratch anyone and he will bleed much like his neighbour—it is nevertheless a truism that no two men are precisely alike. In no respect is this more so than in his mental nature, in the sphere, that is, of his consciousness. These differences of temperament may be assumed to be based on physical differences which may escape detection by the test-tube or microscope, but which are unmistakeably written in the objective manifestations of mind, in the conduct and bearing of the individual. A man, the intellectual side of whose nature is well developed, may exercise a control which imposes outward calm on a naturally perfervid disposition, and may give a surface impression of quietude which is foreign to his nature. This is not likely to mislead those who have any faculty for distinguishing the quick, energetic type usually associated with the possession of powers of rapid perception, rumination, and expression, from the slower, more deliberate, and less impulsive type. The majority of men of the former type are easily recognised by rapidity of speech when discussing matters which interest them, frequently emphasised by gesture and decorated with metaphor or imagery which may easily degenerate into extravagance of language or oratory. Their emotions are easily roused and they sometimes advocate with enthusiasm causes not necessarily sound in themselves. What is true of the neurotic man is true also of the neurotic woman, "only more so," to use a conventional phrase. The intelligent man of a naturally imperturbable disposition, on the other hand, is not as a rule the stuff of which poets, orators, and artists are made. His ratiocination is often slower, but often also more accurate than the neurotic's and the results of his cogitation frequently more reliable, while his actions and expression are less explosive but often more sustained and effective. Dogged sometimes does it, after the rocket has flared into the heavens and returned as the unpicturesque stick. There is, of course, the contingent possibility of tardy worth arriving on the scene too late to be of much use to himself or anyone else. But that is a detail which probably would not disturb him to the same extent as it would his more impetuous fellow. Both types when not dullards may no doubt be raised to white heat on sufficient occasion, the one quickly and the other slowly, but the brain-cell rest of the quick is more easily disturbed than that of the slow. Both, however, in virtue of their intelligence tend to return to the normal, for each creates for himself a centre of calm by clear insight into circumstances and possibilities. Neither of them, that is, desires long a slice of the moon if that luminary cannot reasonably be reached with a knife.

When we come to a lower plane and the subjective differences remain while intelligence is less marked, the phlegmatic have the advantage still more. They have a bovine imperturbability which is conducive to good digestion and to doing nothing, which is sometimes safe. The stupid neurote, on the other hand, is apt to be hurried into precipitate and often unfortunate action, not calculated to hasten his return to normal quietude and rhythmical sleep. Alcoholism, morphinism, and other bad habits are more easily acquired by the stupid neurotic than by the stupid phlegmatic person, although, unfortunately, many a brilliant and lovable nature has also succumbed to the same fatal influences to escape the torture of insomnia.

These temperamental differences which influence cellular excitation, influence also disturbances of sleep due to afferent neural and to hæmic causes. Sleeplessness may therefore be placed in three groups—cellular, neural, and hæmic. Not that these can be altogether detached the one from the other any more than these factors can be separated in the production of normal consciousness, but inquiry will usually elicit in cases of insomnia which of them plays the predominant rôle in a particular case. But whatever the immediate cause of sleeplessness the effects of it, though varying in degree, are the same in kind and the opposite of those observed in sleep. Thus, the temperature of the body is slightly raised, visceral actions are quickened, and secretion, especially the urinary secretion, is increased, not diminished. The latter phenomenon is, like all the phenomena of sleeplessness, most evident in the neurotic insomniac and is due to the higher vascular tension involved which causes a larger excretion of urine by the kidneys, for the increased output is usually of a limpid character.

Let us now consider these varieties of sleeplessness seriatim.

1. *Cellular insomnia.*—The majority of cases of disturbed sleep are referable to this class, as might *a priori* be expected; indeed, most papers on insomnia deal solely with this class. We need not attach too much importance to statistics which are rarely based upon a sufficient number of cases to carry conviction to the mind of the lesson they seem to point. Such as they are, however, they indicate the preponderance of the cases I have termed cellular. Thus, the late Dr. Macfarlane in his thoughtful work found that neurasthenia and worry were responsible for 26 per cent. of cases of insomnia calculated from a total of 273 cases. Although gout, overwork, the menopause, dyspepsia, alcoholism, and senility are among the other causes which he mentions it is probable that the cellular factor played a not insignificant part in many of these also. We must distinguish, moreover, between the subjective and objective causes of cerebro-cellular disturbance. Of these the former, dealing with sensibility and emotion, are more likely to preponderate than those dealing with executive overwork. Worry kills and keeps awake more frequently than work. There is relief and attainment in action which does not appertain to the unutilised energy of subjective or unexpressed feeling. Action takes a man out of himself and thus favours repose.

2. *Neural insomnia*, in the sense in which I have used the term, includes all those cases in which sleep is disturbed by afferent impulses of a more strictly physical kind. Pain and bodily discomfort in various degree and originating in whatever system, be it cutaneous or pulmonary, renal or hepatic, gastric or intestinal, may rouse conscious activity and prevent its dropping into the rhythmical repose natural to it. This such efferent impulses may effect directly, as is the case in pain and local discomfort from any cause, when it is sufficiently pronounced to be perceived by the mind as such; or indirectly when the combined influence of afferent stimulation and cerebral excitation raises the blood pressure. We must remember also that the absence of satisfaction of

an appetite, the hunger of desire, may be an afferent cause of cerebro-cellular excitation as well as its over-gratification or improper indulgence. The infant at its mother's breast which obtains too little nourishment is frequently as sleepless as the child which is overfed or has improper food. In both cases there is a discomfort which is referred to the periphery, and in the case of indigestion certainly begins there. Moreover, what is true of the infant and its food is true also of the adult and of desires and appetites to which the infant is a stranger.

3. *Hæmic insomnia* is a term which, I think, may legitimately be applied to cases in which the exciting cause of sleeplessness is in the blood. As in the case of the cellular and neural group, the hæmic cannot perhaps be stated to act altogether independently of the other factors. There is reason, indeed, to think that the hæmic group is the smallest of those into which cases of insomnia fall, but our experience of anæmia, however originated and at whatever age, teaches us that defective nutrition and repair of the nervous system raise its sensibility and impair its stability. In the hæmic category we should also place cases in which the temperature is raised without the development of localised disease, as, for example, in the continued fevers and also various intoxications, whether with or without localised disease. The terrible insomnia, for example, of the delirious pneumonic, which in no small degree hastens the frequently fatal issue, belongs to this group. Drug and food agents also which disturb sleep may be regarded as acting through hæmic channels. Tobacco when smoked is possibly an exception to this rule, as it has a directly stimulating effect upon the sensory nerves of the oro-nasal cavities, but even in this case there is probably absorption in some measure into the circulation. The blood stream, moreover, may carry products of defective metabolism which act through the medium of the nervous system on the blood-vessels and induce a hypertonic state unfavourable to cerebro-cellular repose, for the most perfect unconsciousness is that which is associated with lowered activity and rest in every texture. Vascular hypertonus of a spastic and functional type has its organic expression in the arterio-sclerotic rigidity of advancing life and old age, which is so often associated with defective sleep. Senile insomnia of this type is, indeed, exalted into a special variety by Sir James Sawyer in his interesting lecture on Sleeplessness.[4] Perfect normal sleep requires a normal minimum of physical and mental stimulation; unrest in one part of the body physical tends to rouse other parts which crave repose.

Prognosis.—The probability or otherwise of the subsidence of insomnia and the recurrence of normal rhythmical sleep depends naturally on the removeability or otherwise of the cause of disturbance. A good deal depends also upon the judiciousness with which protracted sleeplessness is handled by the physician and the strength of character of the patient whether the wakeful habit become fixed or subside. When insomnia is dependent upon physical lesion—ulcerative colitis, to choose a cause at random for the sake of illustration—it is self-evident that unless we can cure the condition, reducing thereby the discomfort and temperature often associated with it, the patient is not likely to drop into sound sleep without the aids of drugs. Similarly, when hæmic causes are at work the agents producing wakefulness must be eliminated or withheld before we can expect their effects to disappear. But in the large class of cellular insomniæ dependent upon abnormal excitation of the cells of consciousness, when we are face to face with a multitude of emotional and mental excitants, at times difficult even to discover, and when discovered frequently quite incapable of being removed, the obviation of effects as expressed in sleeplessness must depend largely upon the intelligence and strength of character of the patient. It is these cases which are so apt to acquire the drug habit, be it morphinism, chloralism, or any other "ism," which may in the first instance have been properly used to impose brain rest. A large proportion of these cases become chronic, less from the actual insomnability of the cells themselves than from their being kept active by the stimulus of apprehension on the part of patients lest they *may* not sleep and the baneful conclusion reached, usually erroneously, that they *can* not sleep without the aid of a hypnotic.

But, on the whole, the prognosis of functional as apart from organic insomnia is good. The normal rhythm tends to re-establish itself when the novelty of abnormal sleeplessness has passed off and sufferers begin to entertain the usual indifference towards what has become familiar. When, however, we are dealing with a patient whose reason is impaired and whose collective consciousness has lost the fixed points for rational arrangement, we can expect no normal rhythmical recurrence of sleep unless such disorder subside. Even in such cases, however, there is frequently a periodical recurrence of sleep alternating with equally rhythmical insomnia and excitement. Like the unconsciousness which follows an epileptic seizure, sleep follows recurrent psychical unrest as manifested by incoherent talkativeness with or without equally incoherent active violence.

Diagnosis.—Remembering what has already been remarked, that, whether we are dealing with the exercise of a normal function or with disorder of function, we cannot absolutely separate as independent factors the cell from its sources of neural stimulation or these from their indispensable blood-supply in the discrimination of one variety of insomnia from another, we have, nevertheless, to discover the preponderant rôle played in such cases by one or other member of this indissoluble functional tri-unity.

Infancy, at which period of life the storage of mental products is at a minimum, simplifies our task by leaving neural and hæmic sources of stimulation chiefly to be investigated. The organism is at this time chiefly concerned with the intake of nourishment, the elaboration of blood, the evacuation of waste products, and with growth. A comparison of the condition of these processes in a given case, with an accepted standard of health, will reveal whether they are normally exercised or defective, whether, that is, the child has too little or too much food or has improper nourishment, whether the evacuations are effectively carried out, whether the condition of the blood is normal for the age of the restless infant, whether the hard and soft textures of the body are of average form, size, consistency, and development, and whether the hygienic surroundings are such as are conducive to health. Defect in one or more of these particulars may reasonably be assumed to be causal of the restlessness which is manifested.

In the case of the adolescent and adult a similar physical examination will reveal facts equally capable of interpretation. But now we are dealing with a more developed mental organisation, with a stage of life which has other requirements, wants, desires, and attractions than the feeding-bottle, a warm cot, and a well-ventilated room. We have not even the comparatively simple task of dealing with the primitive savage adult but with a civilised being, girt round by necessity and laden with responsibility; with a creature, in short, which has ideas and ideals and is capable of being miserable if his ideals are not realised. At this stage, therefore, we may find a sound body yet a disturbed or unrestful mind, and by the exclusion of discoverable physical causes of unrest may correctly come to a conclusion as to the preponderant rôle played in the case by what I have termed cellular insomnia. This disturbance may be due to the over-reception of stimuli and consequent cogitation or to executive overwork either of head or hand or of both combined. In both instances the insomnia will probably be found to depend upon that exhaustion of cellular irritability which so frequently expresses itself in the more widespread functional disorders throughout the body which have been grouped under the term neurasthenia. The brain cells, like the plates of an electric battery, become exhausted by use and have to be raised out of the medium which generates their activity in order to revive. This period of recuperation is in normal circumstances sleep and its restitution when defective the task set the physician.

The treatment of sleeplessness.—There are some preliminary considerations which have a bearing upon the prevention and treatment of sleeplessness and which deserve mention. Except when insomnia is due to physical pain or discomfort, or to a state of the nervous system preceding serious cerebral disorder, or finally, in the case of tragic moral commotion, when the uneducated in self-control among the poor who cannot strictly be regarded as insane are perhaps more apt than the more reserved classes in the same circumstances to take refuge in suicide, sleeplessness is, in my experience, and I think I corroborate the general impression, more rare among the poor than among their wealthier neighbours. This conclusion on my part is based upon lengthened observation among hospital patients and the poor generally. It is remarkable how rarely in the mention of their diverse ailments sleeplessness is referred to by them. Serious nervous ailments such as epilepsy and various

[4] THE LANCET, June 15th and 22nd, 1878.

psychoses are apparently, though perhaps not actually, as common among the poor as the rich. I say apparently, because the poor as a body so greatly outnumber the rich. This fact, if such it be, that insomnia is rarer among the poor has a certain significance. The poor are neither overfed, overclothed, nor idle as a rule, except when unavoidably unemployed. I do not speak now of the submerged "unemployable" but of the labouring poor as a body, the peasantry, urban and rural, who are the source and foundation of a nation. No one will assert that these are free from anxiety or that they have not as tender a regard for their offspring and relations as their wealthier neighbours. It must therefore be that such sleeplessness as they suffer from must either be regarded by them as a minor evil or that their conditions of life are less favourable to its occurrence. I think the latter conclusion may be accepted as correct, for no human being can work hard unless he sleeps well, and as the poor must work hard they probably also sleep well. The workman's energies are largely peripheral, so to speak, or executive. He is hands as a rule, not head. His food is moderate in quantity and plain. He is not superfluously clothed day or night. He is inured to hardship. He is little concerned in laying up for himself "treasure upon earth" possibly from lack of opportunity, and is inclined to believe that the evil of each day suffices for it.

All these conditions of hardihood and hard work lessen as we pass into the so-called higher strata of society. Man then becomes more subjective in his mood, more fastidious in his appetite, "softer" generally, and demands more as his right, being proportionately discontented when his expectations are not realised. What he terms refinement takes the place of more natural and simpler conditions. Whether as a consequence of these altered circumstances or not, minor nervous disturbances bulk large in his imagination, and it is, I think, a fact admitted by most observers that insomnia not dependent upon physical pain or great moral distress is more common among the upper classes than among the lower orders.

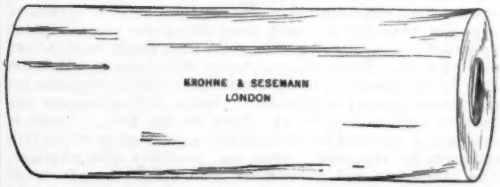
Now we cannot expect the nervous system, modified by education, easy circumstances, and hereditary influences, suddenly to divest itself of all these properties as a man takes off an overcoat. It takes time to make the modification; time is also necessary to unmake it. But it is possible for the wealthy and cultured classes to lead the simple and strenuous life and not hopelessly to degenerate in the lap of luxury. To cultivate, that is, the sound body which holds the sound mind. To keep themselves fit—*toujours en vedette*, and to avoid becoming *blasé* in a life which may be made solidly interesting and beneficial from the dawn of intelligence to its close.

When, however, we have the particular instance of a given insomniac in more or less easy circumstances to deal with we cannot expect him suddenly to assume a Spartan mode of life and regard his state philosophically. We have to take him as he is, and endeavour by degrees to make him, if possible, what he ought to be. The young and potentially vigorous must be fed plainly, advised to take regular exercise, increasing with their improvement of tone, and placed under circumstances in which, day and night, they have an abundance of fresh air, a cool head, and comfortable surface warmth. The older, and especially those with a measure of persistently raised blood pressure, require to be particularly careful as to surface warmth in bed, and especially warmth of the feet, which helps to reduce vascular tension. To secure a cool head in bed the ordinary feather pillow is not a good contrivance. It may certainly be so arranged as not to heat the head for a time but a head-rest may be constructed which is much cooler. Inflated pillows are usually more or less hard and uncomfortable. A "pillow" has, however, been made under my directions by Messrs. Krohne and Sesemann of Duke-street, London, W., which, in my opinion, fulfils the indications better. It is a lightly padded iron frame covered by a case of smooth webbing and open at both ends on which the head and neck rest comfortably, surrounded by air of the same temperature as that of the bedroom. This pillow, which has been called the "open air-pillow," may be used under all circumstances in which such coolness is desirable (see Figs. 1 and 2). Indeed, the so-called hop pillow, consisting of a muslin bag filled with the dried flowers of the hop (*Humulus lupulus*), probably owed any reputation it ever had to its coolness and the suggested purpose of its use rather than to any direct narcotic influence of the odour of the flowers themselves. It is said to have been first used to woo sleep for a merry monarch now departed—Bacchus on a hop-pillow, not crowned in boisterous mirth with the more graceful leaf of the vine! What a falling off was there!

As night is the normal period for sleep it is well when that function is disturbed to secure darkness in the bedroom by blinds of a sombre hue. This is the more especially desirable because the insomniac, after tossing restlessly the greater part of the night, frequently falls asleep towards morning,

FIG. 1.

FIG. 2.



and his slumber is more likely to be resumed, if, in a moment of wakefulness, he open his eyes upon darkness, rather than upon daylight with all its associated duties. In the case of nervous children, however, who dread darkness, it is frequently necessary to keep some shaded light in their rooms when first put to bed. But this luxury should be withdrawn as they grow older, to inculcate that mood which they will find invaluable in after life—namely, fearlessness under all circumstances. For the rest it need only be added that the insomniac should be enjoined to impose the calm of natural sleep on his *voluntary* muscular system and to resist the temptation to tossing and restlessness. Voluntary muscular quiescence affords in itself a measure of refreshment. Patients have frequently been advised to pursue some monotonous imaginative exercise like counting sheep jumping over a wall, but the less voluntary exertion there is imposed either on brain or muscle, the sooner as a rule will sleep ensue. Patients should especially be impressed with the fact that sleep will overtake *them*, but they will only postpone its advent by endeavouring to overtake *it*.

When sleeplessness is due primarily to discoverable physical causes, acting through afferent neural channels directly, or to causes acting indirectly as excitants to consciousness by conveyance to the centre in the blood stream, or, again, to such effects of these causes as disturbance of temperature or vaso-innervation, the removal or mitigation of such causes of defective sleep is necessarily the first duty of the physician. To enter with detail into this aspect of the treatment of sleeplessness would manifestly be out of place on this occasion, as it would require many lectures to deal with it adequately. It is therefore only possible in this connexion at present to indicate the principle of the removal of the ostensible cause of the sleeplessness in any given case to secure the disappearance of the effects in most instances. But even when such a procedure is in progress, be it temperature reduction, or the reduction or increase of vascular tension, or the treatment of any other abnormality whatsoever, it may be necessary to act directly upon the organ of consciousness, to secure sleep in that interval which must necessarily elapse in many cases before the introduced hæmic or the peripheral cause of disturbance can be eliminated. For this reason medicinal agents are necessary and their selection is not an unimportant detail.

Many as have been the hypnotics introduced into practice during recent years, when physical pain or disorders of visceral motion and sensibility are the active causes of insomnia, none of these has an efficacy in any way comparable to that of those oldest of hypnotics, opium and its derivatives. No agents, however, are more apt to induce the drug habit. Prescribed in the first instance for sufficient

reasons, and in quite a legitimate manner, they frequently continue to be used by the patient, openly or surreptitiously, after the need for their employment has gone. Their use, therefore, has to be constantly guarded from abuse. In the absence of physical pain and visceral commotion or discomfort the majority of reliable hypnotics in use belong to the methane series, of which alcohol, chloroform, paraldehyde, sulphonal, trianal, veronal, chloral, and chloralamide may be mentioned as examples. Why this group should have a special action in abolishing consciousness is not quite clear, notwithstanding some ingenious suggestions as to their *modus operandi*. Cushny [5] refers to the hypothesis of Meyer and Overton, according to whom their special solubility in lecithin and cholesterin, in which brain-cells abound, is a possible cause of this specific action. But, as Cushny points out, there are other substances resembling these in this particular of solubility which have no such narcotic effect. One would *a priori* expect that if this special solubility led to a more intimate incorporation of these substances with the brain cells their effect upon the latter would be more lasting than experience teaches to be the case. Thus the chloral habit, or even the habit acquired of taking that most disagreeable hypnotic paraldehyde, may exist for many years without apparently disabling the brain cells from doing much active mental work. But again, one meets with cases in which the drug habit appears to incapacitate its victims altogether for continuous mental application. These differences are not easy to explain merely as effects of the drug. There is evidently a personal factor involved, a personality which is a synonym for character, moral and probably also physical. The intelligent and industrious who dread the effects of insomnia may, like him who eats to work, take hypnotics to work. Others, like those who live to eat and who also live to sleep and to indulge in anything else that is pleasant, take hypnotics to squander in sleep the time they are too selfish or too inert or too ignorant to employ profitably when awake. But sleep is necessary for all; like rain it falls upon the just and upon the unjust, and, injurious as are the effects of the abuse of hypnotics in many cases, their actual destructive power is less than that of a continuous or persistent insomnia however caused. Regrettable as is the acquisition of the sleep-drug habit, there are cases, therefore, in which, as the lesser of two evils, the use of hypnotics for a considerable period seems unavoidable.

With one or other member of the methane group bromides may be prescribed, alone, or with the addition of a derivative of hyoscyamus or cannabis indica. The well-known effect of the hyoscyamus group upon the peripheral motor nerve-endings tends to quiet muscular unrest and helps to induce that quietude of the extremities which favours the advent of sleep. Hyoscine itself is too powerful a drug for habitual use, but in the violent excitement of the insane may be invaluable as a muscular quietant. I have not infrequently found the use of the bromides during the day and a separate dose of one of the methane hypnotics at bedtime an effectual means of removing the consequences of insomnia.

The most difficult cases to treat among those possessed of reason are those in which artificially induced sleep only leads to an awaking in which the recognition of persistent causes of mental disturbance again present themselves. A certain proportion of such patients, usually with a congenital neuropathic strain, develop some form of maniacal aberration, temporary or persistent. Others without such strain may, after continued anguish, even die from that exhaustion which has in figurative language been termed a "broken heart," and which, if, like Balzac's callous husband who sent his wife's tears to a chemist for analysis, we try to define it more scientifically, we shall find it compounded of malnutrition, anæmia, loss of flesh, and the unresisted incidence of some intercurrent affection which proves fatal.

Those, however, are the cases in which the acme of distress is witnessed, in which physical pain is added to mental torture from other than physical causes. Even such cases one has at times known to reach a harbour of quietude and relief, but sometimes only for a brief period, before they again cross the bar on a voyage from which no ordinary mortal has ever returned. This last journey is, however, not infrequently taken on the initiative of the miserable patient himself, either by the self-administration of an overdose of hypnotic or by a despairing leap into space when death is welcomed as a friend. The suicide of the insomniac is not an uncommon event, even when the physical or mental suffering involved is not of such a degree as would tempt an unhinged mind to do the desperate deed. This only emphasises the importance of the subject we are discussing.

Yet another group of cases in this class find relief and recovery by learning to ignore the pressure of such persistent psychical excitants. These three kinds or degrees of disturbance belong, however, to an exceptional and aggravated group and tax the ingenuity of the physician not only as one prudently administering certain physical agents which act as narcotics but also as a philosopher with experience of life, whose undisturbed vision relatively to his patient's may enable the latter to walk through the fog of his circumstances into clearer day and with better hopes of overcoming his "strong enemy." The vast majority of cases of cellular insomnia, however, present no such difficulties and merely require judicious management upon the part of both physician and patient to be satisfactorily replaced by refreshing sleep. The prognosis, as I have said, in most cases of insomnia is good—a fact to be impressed upon the patient, for a succession of *nuits blanches* has a very depressing effect which naturally aggravates the condition and renders the task of the physician proportionately difficult. Sleep at night has frequently to be earned under these circumstances during the day. Robust and wholesome life, fully exercised during the day, throws itself more or less tired on to its couch at night to sleep soundly, in some cases the sleep of the just, and in others that of the unjust with a maximum of digestive power and a minimum of conscience. But, as a rule, when, from one cause or another, peripheral or central, or both combined, sleep has been disturbed, the return to refreshing slumber at night must be earned by a carefully regulated life during the day.

In extreme cases, both in men and women, there is no doubt a place for the "rest cure" and all its appurtenances. By this I mean the isolation of the individual in a nursing home, quietude, massage, careful feeding, and a curfew sounded comparatively early after sundown. But in most cases of insomnia, and especially among men, the nursing home should be avoided. It stands not far under these circumstances from the lunatic asylum and leaves a memory of nerve-wreck, or even of cowardice, which does not minister to self-respect. The steady performance of a compassable amount of work; the avoidance of excitement so far as possible; the cultivation of self-control; the production by circumspect and wholesome conduct, physiological and moral, of a centre of calm into which the individual may retire, *saevis tranquillus in undis*, when external sources of irritation bear upon him; the consciousness of a brave endeavour to perform duties which cannot be neglected without injury to himself or others; the well-spent day which leads to the cool and quiet pillow at night—this *day-sleep*, as such an attitude from its reduction of the friction of life may be termed, will gradually lead by recuperation of energy to sound *night-sleep*, often without the aid of drugs, though sometimes requiring their help for a time. The most annoying incidents which, suddenly thrust upon a man, induce cellular mental activity and the vaso-motor disquiet normally associated with that state spend themselves. Bravely looking the situation, whatever it be, in the face and translating thought into reasonable action will do more for the average and normally constituted man or woman who suffers from insomnia than more elaborate and invalid methods which enhance introspective activity, sap the self-reliance and self-respect of the individual, and perpetuate that subjective sense of dissatisfaction which turns the useless and mis-spent day into the restless and wakeful night. Indeed, Sir William Broadbent's words on the abuse of drugs in insomnia apply equally to the frequently unnecessary incarceration of such patients in nursing homes—"they diminish," he writes, "the resistance and impair the manhood of the individual." [6]

In the same category should be placed the practice of hypnotic suggestion as a therapeutic agent. There is a residuum of effete men and women in whom it is almost hopeless even to attempt to rouse that "heart for any fate" which brings its own reward in steady effort and in calm repose, who drift at times into the hands of the practitioner of hypnotism to be coaxed into an oblivion not otherwise attainable except by drugs. But the type suitable for his

[5] Text-book of Pharmacology, p. 126.

[6] THE LANCET, Jan. 27th, 1900, p. 215.

ministrations is likely to relapse at the first serious *contre-temps* unless lifted on to a higher level of open-eyed endurance, the road to which does *not* lie through hypnotism. On the therapeutic value in nervous disorders of indifference—*insouciance*—the readiness to meet with *sang-froid* whate'er betide, a not uninstructive essay might be written. It is a mood akin to, though not identical with, the grand attitude of Renunciation or *Entsagung* and both, born of strength, beget calm, and in the absence of organic disease, the normal consequences of that state, sound and refreshing sleep.

A Lecture

ON

SOME OF THE SOURCES OF WOUND INFECTION.

Delivered at St. Bartholomew's Hospital on Dec. 11th, 1907,

BY C. B. LOCKWOOD, F.R.C.S. ENG.,

SURGEON TO THE HOSPITAL.

GENTLEMEN,—You may have observed that twice a week in the operating theatre we make certain tests of the materials which we are using, of the hands which are brought into contact with the patient, and of the patient's skin. It is now some years since I last referred to this subject, and it is rather strange that I have never yet told you the reasons for my procedures. The essential object of making bacteriological tests during the performance of the operation is to ascertain the absence of bacteria. If bacteria are absent we then consider that we are working aseptically and we call the result asepsis. I am quite aware that that is not the sense in which the word asepsis is always used. Some surgeons apply the term to operations which are conducted by means of heat and with the aid of salt solution and without any stronger chemicals. Whether their results are clinically better than the results of surgeons who use mild chemicals I cannot say. But their published records show, I believe, that their results are never germ-free, and that in the vicinity of the wounds the staphylococcus epidermidis albus (the ordinary skin coccus) is continually present. The staphylococcus pyogenes aureus is not infrequent, and streptococci and even the colon bacillus are found. Now, I myself could not be contented with the presence of such micro-organisms in the vicinity of wounds. Besides, let us take what is after all a perfectly logical and scientific standard of excellence, the entire absence of bacteria, and then you know exactly where you are. At all events, a wound which contains no bacteria cannot be septic. What sepsis is I cannot tell you. It has never been defined. I should suspect that some of the wounds which contain streptococci, staphylococcus pyogenes aureus, or the colon bacillus may be very septic indeed.

The tests which we apply prove that everything which can be treated by heat gives perfectly aseptic results. Perhaps I ought to make this qualification and say that unless you steadfastly test—and I have been testing for more than 15 years—curious errors creep in. I remember a while ago being rather surprised when informed that the needles infected our broth. As soon as this was ascertained and brought to the notice of those who performed the process of sterilisation the needles were sterile. So, clearly, you must not assume the sterility of anything until it has been tested. In passing I would perhaps answer a question which has occurred to you, and it is this: Why might chemicals not be used for the disinfection of instruments? I have often wondered whether instruments dipped in pure carbolic acid are liable to infect. I am inclined to think that they may. Pure carbolic acid may coagulate albumin on the instruments and there may be infection beneath its layers and during the course of the operation the layer may come off and the wound may be infected. Mr. B. T. Lang very kindly tried to ascertain whether he could disinfect instruments by means of strong solutions of formalin. Formalin is a very potent disinfectant. A disinfectant is a chemical which kills bacteria. So Mr. Lang applied a 25 per cent. solution of formalin to infected instruments for 24 hours and had to acknowledge that he failed. Clearly, great caution is required before using instruments which you have attempted to disinfect by means of chemicals. I have said already that the effects of heat are absolutely certain. We have seen that over and over again. We are continually disinfecting silk by means of heat. It never comes into contact with any chemical whatever and is passed straight into broth but nothing grows. I want to make this qualification. Outside this hospital we have a hay market, and some years ago Dr. E. Klein pointed out that it was difficult, in experiments performed upon this site, to exclude the hay bacillus. And we have found that when any source of error has crept in the presence of the hay bacillus has been recorded. I need hardly say that the hay bacillus is a perfectly harmless bacterium, and one which is very easily recognised.

A far more potent source of wound infection is the skin of the human hand. When first I began to put a piece of skin from my own hand into broth an aseptic result was almost unknown. I became quite disheartened and thought it impossible to achieve asepsis. By making further efforts, and more especially by realising the value of alcohol, especially in conjunction with such antiseptics as the so-called biniodide of mercury, we began by degrees to achieve better results. I do not think that the inexperienced will ever get good results at all. I have been working at disinfection of the hands for over 15 years and am only now beginning to realise how difficult the problem is. I need hardly say that it is impossible in the preparation of the hands to disinfect or to clean beneath the angles of the nails; the nails must be cut off short. Next, it would be absolutely impossible to disinfect hands which have any open sore or septic place upon them. A new cut would not, I imagine, matter, but it would be unjustifiable to operate if there were any septic focus upon the hands. And, without going far out of my way, I could tell you of some dreadful disasters which have happened through the breach of this rule. You might think that if you had a septic sore upon your hands it would be justifiable to cover it up with, say, collodion or perhaps with a rubber finger stall or with rubber gloves. But I am afraid that that would not be right. Collodion comes off, finger stalls come off, gloves may have holes in them, and, further than that, gloves are often punctured during the course of an operation or may even be torn. So that a person with septic sores upon the hands should not perform surgical operations, or, what is equally important, gynæcological operations, including midwifery.

Supposing that the hands have been prepared for disinfection, that they have been cleansed as far as possible by means of soap and water, and freed from any superficial contamination, the next step is to disinfect the skin. Now that is really a most difficult problem. I have already told you that at one time we never achieved it. Then our results improved and we managed to disinfect perhaps once in five or six times. Then we have managed to improve and to disinfect 20 per cent. and then more. And on looking over the reports of the gentlemen who have so kindly taken cultures from my own skin I find in the last 66 tests that they have only caught me out once. As you know, this test is made with a small piece of skin snipped off and dropped into broth. Presently I shall tell you about more rigorous tests which we applied. I knew that various observers had examined the skin of their hands after they had been prepared with salts of mercury, such as sublimate or biniodide, and so forth, but usually sublimate, and that they had found that the skin after disinfection contained an appreciable quantity of mercury. Haegler in his book on the Disinfection of the Skin, which consists of 250 pages and four pages of figures, has made the same observation. After the hands had been prepared, treated with alcohol, and then soaked in sublimate he dipped them in a solution of sulphide of ammonium. Hands which had been treated with mercury came out black, proving conclusively that the skin retained within it a proportion of the sublimate. I snipped off some particles of skin from my own hands and sent them to Dr. W. H. Hurtley who with great kindness undertook to report upon their chemical properties. And he reported that the scraps from the freshly prepared hands contained an appreciable quantity of mercury. But Dr. Hurtley did not know until I told him yesterday that I had not for 27 hours applied any biniodide to some of the skin which I sent to him, so that the skin of my fingers had retained an appreciable quantity of mercury for that length of time and of course during that 27 hours they had been washed many times in the ordinary manner. So it is possible to saturate the human skin with mercury. On thinking this matter over it occurred to me that the

process of saturation of the human skin was an essential one in its disinfection and in making it antiseptic. And by antiseptic I mean that bacteria would refuse to live in it. So we have been trying of late to saturate our skin with biniodide of mercury. The way in which we proceed is this: we take the ordinary solution of spirit of biniodide of mercury, which is made of 75 per cent. of ordinary rectified spirit, and a solution of mercuric iodide in iodide of potassium to make it of a strength of 1 in 500. The water amounts to 25 per cent., and the reason for this addition is well known—and I need hardly dwell upon it—that when disinfectants or antiseptics are mixed with alcohol, or with glycerine, or with fat they become inert. A solution of disinfectant with spirit becomes potent again after the addition of water, and for practical purposes we find that a dilution of 25 per cent. suffices. Now as to the way in which we try to get the antiseptic into our skin. Biniodide suits my skin and it is a good antiseptic, and we have tested its effects on the tissues. With tissues which were washed with biniodide of mercury of a strength of 1 in 4000 I am unable to see the slightest change. Mr. A. J. Kendrew, to whom I am much obliged, showed me first sections of ordinary muscle and of ordinary fat and then afterwards some which had been washed with 1 in 4000 biniodide of mercury, and I was unable to tell which was which. So I think we may guess that many of the statements which are made about the harmful effects of chemicals upon the tissues will not apply to biniodide of mercury. I think that on looking through the literature you will find that the statements which are made apply to very strong solutions of sublimate and to strong solutions of carbolic acid, which you know combine with albumin very freely.

Now, how do we get biniodide of mercury into the skin of our hands? After the hands have been washed they are put in spirit and biniodide 1 in 500, and afterwards put into a watery solution of 1 in 500. That is repeated four times at least, until we get 1 in 500 watery solution absorbed into the depths of the skin. Dr. Hurtley has ascertained that skin treated in that way contains an appreciable amount of antiseptic. Also, I believe that it will bear tests which skin treated in other ways will not bear. Haegler tested the asepticity of skin by dragging across it pieces of silk which were afterwards dropped into broth or put on to the surface of a culture. And we have found that after these more rigorous efforts we have been able to drag pieces of silk through the fingers without infection. But this is not the most stringent test because the fingers are easy to disinfect. Therefore it has been dragged many times through the palms of the hands, which you know have numerous sweat glands upon them, and a large proportion of that silk was not infected. We have not been practising this stringent test for very long, but I am quite within the bounds of veracity in saying that 40 per cent. of our tests were aseptic. As a matter of fact, I believe the proportion is higher. Further, if some gentleman will apply his mind to this subject he will discover a better method than any of these for the disinfection of the human skin.

You might say this to me: "Why, if the skin of the hands is so difficult to disinfect, do you not wear gloves?" I have already partly answered that question. The assistants at operations should certainly wear gloves. I am not saying anything that is not quite kind or polite when I say that the assistants at operations cannot have had a very large experience in the methods of disinfecting their hands, and have already said that in disinfection of the hands experience counts for a very great deal. Why should not an operator wear gloves? Many operators do. I have been wearing gloves for a great many years. When I was surgical registrar I used rubber gloves in all the post-mortem examinations and was conscious that I could not feel properly in them. And with gloves on I could not during an operation put my fingers down into the depths of the pelvis and extract an adherent vermiform appendix or an adherent and suppurating Fallopian tube with any degree of confidence. But, for a great many operations, such as rectal examinations, operations for hæmorrhoids, for fistula, and for operations on septic sinuses and so forth, surgeons ought to wear gloves. Surely it must be easier to disinfect hands which have not been contaminated than to disinfect hands which have.

We come next to another matter and that is the testing of the skin of the patient. You probably know that the difficulty in disinfecting the skin of the patient depends to a very great extent upon the region from which it comes and you may say offhand that regions which have upon them hair and consequently deep sebaceous glands and which have long sweat glands are additionally difficult to disinfect. This is true with regard to the scalp; the skin of the back is also very difficult to disinfect, so is the skin of the groin and the skin of the armpits. The easy skin to disinfect is in front of the limbs, of the abdomen, and of the chest. The bearing of this is obvious and you will take additional pains in endeavouring to saturate the more difficult regions with disinfectants. The difficulty which you will meet with is the presence of fat in the sebaceous glands of the skin. And you will observe that I have almost put the difficulty in the order of the abundance of the sebaceous glands. I wonder if anybody has ever succeeded in disinfecting the scalp. If you are aware of the difficulty your minds will suggest to you methods of overcoming it. And you may have observed that we use all sorts of materials for extracting sebaceous matter from the human skin. Ether is good but it speedily evaporates. Turpentine is good and has some disinfecting properties. We have tried benzol and I do not see why we should not try others of the petroleum series. We also use alcohol as part of the process of disinfection. It is not only a disinfectant in itself but it is useful in the removal of grease. Again I say about disinfection of a piece of skin what I have already said to you about disinfection of the hands. As our realisation of the extreme difficulty of the process has grown, so we have become more successful. I regret not to have had time to abstract all the returns which the house surgeons and pathological clerks have with such great kindness sent me. But I believe it to be correct to say that we succeeded, taking every region of the body into consideratien, in at least 75 per cent. of our attempts. I believe that is well within the truth. And it is comforting to think that in some of the regions where the effects of skin infection would be most disastrous it is least likely to occur. So that one feels very few qualms when called upon to open a knee-joint for the removal of a loose cartilage, as one had to do yesterday.

With regard to the disinfection of the human skin there are certain further tests which can be applied. One of the tests which we are endeavouring to apply on every occasion is the removal of a stitch from the wound when it is dressed and placing that stitch into broth. And here, again, with increasing experience and increasing trouble we are getting a very much higher proportion of asepsis. I ought to say that we are not contented with our methods of closing wounds. The stitch-hole often has a small red point around it which is objectionable. We have tried celluloid thread, which is better, but that often has a red point round it. I am not by any means certain that we may not try other means and shall suggest to the house surgeon that some of our wounds be closed with metal clips. The meaning of all this is—and I do not know what the house surgeon will think of it—that I shall not be content until we get perfection.

I now come to another point in regard to the source of wound infection, those which are due to the environment of operations. And I had this point brought home to me in a very painful manner when the temporary theatres were opened. This hospital is ultimately to be equipped with proper theatres and I cannot tell you what a very difficult problem the arrangement of proper theatres will be. I have learnt a very great deal from having to operate in different kinds of theatres in this hospital and hope that either I or somebody else will ultimately evolve the plan of a suitable operating theatre. But to come back to my painful experience. I had to perform a gastro-enterostomy and also a complete removal of the breast and also the removal of a myxo-sarcoma from the brachial plexus on one day. In those times the theatre had no bay in it for the audience. And that day, for some reason or other, there was a large audience, so that the floor of the theatre was full of people. The atmosphere was dreadful and the end was that the unfortunate patient who had gastro-enterostomy performed died from a slow form of septic peritonitis, although there was no leak nor any reasonable probability of some fault on the part of the operator. Next, the case of complete amputation of the breast suppurated freely but the patient fortunately survived. Lastly, the myxo-sarcoma of the brachial plexus healed by first intention, but by the time that operation was done most of the audience had departed, and the operation was a speedy one and did not involve exposure to a polluted atmosphere for over an hour. That was a sad experience.

And now I want to discuss with you for a few minutes the

source of this environment infection. First of all, the condition of the atmosphere would, of course, depend upon the size of the room. The room we are in is a very suitable size for an operating theatre. It contains about 9000 cubic feet. The small operating theatres contain from 5000 to 7000 cubic feet, and the old operating theatre contains some 12,000 cubic feet. The new theatre at the top of the east block is a very good size for a theatre and contains about 9000 cubic feet. I wonder if I am making any impression upon your minds. Some of you gentlemen will have to plan operating theatres, and this question of size will be one of extreme importance to you. The next thing about the atmosphere of an operating theatre is this. If you agree that you are going to have 10,000 cubic feet of space in your operating theatre how often ought that air to be changed for the comfort of the inmates? It is agreed by those who are versed in the science of ventilation that the air ought to be changed at least six times in the hour. In the building you are in at present they have instituted a modified form of the Plenum system of ventilation. That system does this, it takes air in from the outside. And that air is filtered and moistened. It is then passed over water-pipes to warm it in winter to 65° F. and cool it in summer, and then it is passed to where it is wanted. The vitiated air goes out at the top. I may tell you that I have no prejudice in this matter. The proper Plenum system necessitates the closure of doors and windows. But the Plenum system occasionally breaks down. I believe it broke down the other day at the new law courts with very unpleasant results. Again, I am told that the people living where that system is in operation do not feel comfortable and that children who live in it become anæmic. These are not my own experience; they are simply what I have been told. Against that you have to put what is known as the natural system. That admits air near the floor beneath radiators, and then it has an extractor consisting of a fan near the roof for the vitiated air. The theatre we are in has; in addition to these appliances, a Tobin's tube. My experience of these tubes is unpleasant, because the air enters half-way up the room and is often cold and falls down on to the top of one's head, and so is uncomfortable if you sit near it. What I want to impress upon you is that you have to make up your minds about the size of the operating theatre in which you work and decide how often the air ought to be changed, and next the method by which it is to be changed. Besides odour and unpleasantness, what other tests are there of the condition atmospheric? There is the bacteriological test. I can tell you offhand that in great cities air outside the windows contains various sorts of bacteria which are derived, of course, from the animals in the streets, from the surface of the bodies of the people who are walking about in the streets, from their respiratory tracts, and so on. I can tell you further that in a room such as this all those bacterial contaminations are increased. And they are increased in many ways. At present, whilst I am speaking to you in an ordinary colloquial manner, it has been scientifically shown that I am not sending my throat or mouth bacteria into the atmosphere. This work was begun by Flügge, but in the last few years Dr. M. H. Gordon has added most important scientific evidence and has extended the work by identifying the bacteria. He says that as long as a person speaks in an ordinary conversational tone nothing is emitted from his throat into the air around. But as soon as he begins to speak loudly and to gesticulate, then bacteria are showered to a distance of 40 feet from the mouth. Therefore the mouth is a potent source of infection of the atmosphere. What happens in that respect when a person coughs and sneezes it is difficult to imagine, but if loud talking and gesticulating will send bacteria 40 feet, I assume that coughing and sneezing will send them 20 or 30 more. Another potent source of aerial contamination is dust and dirt brought in upon the garments and boots of people from the street. The carrying of bacteria upon the boots is not a matter of speculation. That might be guessed when one thinks what a horrible mixture the mud in the roads is, that there may be colon bacilli in it, streptococci of various kinds, the tetanus bacillus, the bacillus septicus, tubercle bacilli, and many others. It is certain these may, when present, be carried into theatres on people's boots, because Dr. Gordon made the following experiment. At the House of Commons he put down some earth which had been contaminated with the bacillus prodigiosus, a bacillus which it is very easy to identify. He then examined the dust which fell from beneath the gratings where the Members of the House of Commons trod, and he found that they carried the bacillus prodigiosus on their feet a distance of 576 feet. You can therefore very well imagine the dangers of this form of infection. How is that to be met? One of the great ways in which anything is met is not by laying down rules but by educating people. And no man who had ever thought of this would willingly carry dirt or dust into rooms or operating theatres, nor would he, when he got there, stamp about the dust which is there. But, after all, there is a great deal of human nature in man, and human nature dictates that he will not always remember. In consequence of that steps ought to be taken—and we are taking them—to provide a cheap and efficient method of covering up dirty boots before they go into the theatres. But in addition a glass screen should be placed between the audience and the operator. The glass screen need not go up to the top of the theatre; it would become, perhaps, in such circumstances easily clouded with moisture and the audience would not be able to listen to the dulcet tones of the operator.

I have only mentioned some of the matters on which we are engaged, but have perhaps told you enough to interest you in what we are doing, and I hope shall encourage gentlemen to take these matters in hand and try to go one better.

IS THE DEATH-RATE THE BEST MEASURE OF SEVERITY IN DISEASE?

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LONG habit has made many medical men so familiar with the use of death-rates (or, to use the stricter terminology, of case mortality rates) that they have come to regard them as the only possible measure of severity in disease. Others would not deny that other means of measuring severity might be used, but would emphatically deny that the latter could in any case give results more accurate than those given by mortality rates. To measure severity by any other criterion than recovery or death they might admit to be possible, but if the special method gave results opposed to those given by mortality rates such discrepancy would prove, they consider, the unreliability of the former. This exaltation of mortality rates into an absolute standard is quite unjustifiable. And, what is of more practical importance, a devotion to mortality rates as the chief, if not the only, subject worthy of study in medical statistics accounts in great measure for the present backward state of that branch of science. In the present paper I hope to show by very simple methods, first, that reliance on mortality rates can mislead; and, second, that the mortality test can for many problems be a very inconvenient one and much less likely to give the true solution than other methods.

I. *The mortality rate is not in all cases a reliable test of severity of disease.*—The first thesis will be proved if I can show that the mortality rate can be affected by other circumstances than the severity of the disease. It is often suggested that death or recovery may depend upon two independent factors: (*a*) the severity of the attack and (*b*) the strength of the patient; and although many will be prepared to admit both factors as possibilities they have no clear idea how the effect of these factors could be distinguished. How can we measure the vitality of our patients? Some would hold that it is not measurable, others would argue that whether such patients die or recover must be the true test. And how can we measure the severity of attack unless we here also fall back on the mortality rate? The answer is very simple. We can in many cases measure the symptoms, and, if so, we have a real test of the severity of the disease. And even if the symptoms are not measurable we can still get reliable results if we divide cases into groups or classes according to the severity of any symptom.

The first example which I will give is a table which I published in the reports of the Metropolitan Asylums Board for the year 1904, showing the connexion between the age of the patient and the severity of the eruption in cases of small-pox amongst the unvaccinated. For the facts I am indebted to Dr. T. F. Ricketts, medical superintendent of the Metropolitan Asylums Board small-pox hospitals.

TABLE I.—*Showing the Severity of the Eruption and the Age in 1824 Unvaccinated Cases of Small-pox.*

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	0–30	30–40	40–50	Over 50	
I.	43	18	12	7	10	6	4	3	103
II.	37	20	32	22	27	7	3	0	148
III.	137	132	91	73	62	29	8	5	537
IV.	123	112	64	30	38	15	3	1	386
V.	130	102	57	27	30	8	0	3	357
VI.	108	85	44	21	23	6	1	5	293
Total ...	578	469	300	180	190	71	19	17	1824

Class I. is hæmorrhagic small-pox. Classes II. and III. are confluent cases, the former confluent before pustulation occurs and the latter after. Class IV. is discrete small-pox with over 500 pocks on the face. Class V. is discrete small-pox with from 100 to 500 pocks on the face. Class VI. is small-pox with less than 100 pocks on the face.

It will be seen that the figures in this table show no preponderance of severe eruptions at early ages or at the very late ages of life when the death-rate is very high. On the contrary, with one exception (Class I., in infancy) the preponderance is slight but significant in the opposite direction—viz., increased number of pocks at increased ages.

Table II. shows the distribution that would correspond to complete equality of severity at all ages, which is calculated thus. Take the total number of cases in the first column—i.e., 578—and divide them up in the same proportion as the grand total 1824 in the last column is divided between the separate classes. Repeat the process similarly for every column. Table III. shows the difference between Table II. and Table I. It will be noticed that the differences are not great, but all the positive quantities tend to collect in the upper right hand and lower left hand quadrants, showing a slight preponderance of severe cases at higher ages.

The difference between any figure in Table I. and that which corresponds to it in Table II. represents the tendency that small-pox of a definite type has to attack persons of a definite age *in excess or defect of the average rate of all ages.*

TABLE II.

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	32·6	26·5	16·9	10·2	10·7	4·0	1·1	1·0	103·0
II.	46·9	38·1	24·3	14·6	15·4	5·8	1·5	1·4	148·0
III.	170·2	138·1	88·3	53·0	55·9	20·9	5·6	5·0	537·0
IV.	122·3	99·3	63·5	38·1	40·2	15·0	4·0	3·6	386·0
V.	113·1	91·8	58·7	35·2	37·2	13·9	3·7	3·3	356·9
VI.	92·8	75·3	48·2	28·9	30·5	11·4	3·1	2·7	292·9
Total ...	577·9	469·1	299·9	180·0	189·9	71·0	19·0	17·0	183·8

Table III. gives these differences, a + sign denoting that the observed number exceeds that calculated from the average, a − sign that it falls short. To avoid confusion fractions are omitted and the nearest whole number is given. In a few instances the difference is less than ½, so that the nearest whole number is 0. The + or − sign of the fraction is, however, retained.

TABLE III.

Class.	Age-periods—Years.								Total.
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	+10	− 8	− 5	− 3	− 1	+ 2	+ 3	+ 2	0
II.	−10	−18	+ 8	+ 7	+12	+ 1	+ 1	− 1	0
III.	−33	− 6	+ 3	+20	+ 6	+ 8	+ 2	− 0	0
IV.	+ 1	+13	+ 1	− 8	− 2	− 0	− 1	− 3	+ 1*
V.	+17	+10	− 2	− 8	− 7	− 6	− 4	− 0	0
VI.	+15	+10	− 4	− 8	− 8	− 5	− 2	+ 2	0
Total ...	0	+ 1*	+ 1*	0	0	0	− 1*	0	+ 1*

* These totals would have been 0 if the actual fractional difference had been taken instead of the nearest whole number.

TABLE IV.—VACCINATED CASES.

Class.		Age-periods—Years.								Total.
		0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	
I.	Actual cases	*0*	*0*	*2*	*5*	*34*	*57*	*42*	*23*	*163*
	Calculated	0·5	2·7	7·9	19·5	59·2	41·7	20·2	11·1	—
	Difference	− 0·5	− 2·7	− 5·9	− 14·5	− 25·2	+ 15·3	+ 21·8	+ 11·9	—
II.	Actual cases	*0*	*1*	*0*	*13*	*39*	*49*	*30*	*10*	*142*
	Calculated	0·4	2·4	6·9	17·0	51·5	36·3	17·7	9·7	—
	Difference	− 0·4	− 1·4	− 6·9	− 4	− 12·5	+ 12·7	+ 12·3	+ 0·3	—
III.	Actual cases	*0*	*2*	*5*	*29*	*149*	*170*	*81*	*41*	*477*
	Calculated	1·4	8·0	23·2	57·3	173·5	122	59·6	32·5	—
	Difference	− 1·4	− 6·0	− 18·2	− 28·3	− 24·5	+ 48	+ 21·4	+ 8·5	—
IV.	Actual cases	*0*	*4*	*26*	*64*	*256*	*225*	*129*	*52*	*756*
	Calculated	2·2	12·6	38·8	90·7	274	193·5	94·6	51·5	—
	Difference	− 2·2	− 8·6	− 10·8	− 26·7	− 18	+ 31·5	+ 34·4	+ 0·5	—
V.	Actual cases	*2*	*9*	*43*	*115*	*377*	*235*	*120*	*78*	*1029*
	Calculated	3·0	17·2	50·0	123·5	374	263	129	70·0	—
	Difference	− 1	− 8·2	− 7	− 8·5	+ 3	+ 22	− 9	+ 8	—
VI.	Actual cases	*13*	*70*	*173*	*389*	*1005*	*524*	*239*	*145*	*2558*
	Calculated	7·5	43	124	307	929	654	320	174	—
	Difference	+ 5·5	+ 27	+ 49	+ 82	+ 76	− 130	− 81	− 29	—
Total		*15*	*86*	249	615	1860	*1310*	*641*	*349*	*5125*

The black lines divide the table into four quadrants. The top left-hand quadrant—i.e., cases of severe small-pox in young patients—and the bottom right hand quadrant—i.e., mild small-pox in old patients—both show deficiencies, while an excess of cases shows in the reverse conditions, viz., mild cases in young people and severe cases in old people.

A stronger preponderance of severe cases among the older patients is shown if we take the vaccinated cases; though the effect of vaccination in infancy and the gradual disappearance of the protection afforded by it render the table less suitable to the illustration of my thesis. To save space the numbers corresponding to equal severity at all ages and the differences between these and the actual figures have been entered in the same table.

A second instance is obtained from a paper, not yet published, by Dr. W. Lowson and myself on the temperature in scarlet fever. Here we have measured the severity of pyrexia in each case by measuring the area included on the temperature charts between the record of the patient's temperature and the normal line. For the precautions taken I shall have to refer my readers to the paper when it appears.

TABLE V.—*Temperature—i.e., Area on Temperature Chart.*

Years of age.	Area of fever shown on chart.								Total.
	0–5	5–10	10–15	15–20	20–30	30–50	50–100	Over 100	
0–1	1	—	—	—	1	—	1	—	3
1	15	2	3	1	—	3	4	1	29
2	27	5	1	1	4	—	1	2	41
3	25	1	4	2	2	4	4	1	43
4	25	12	3	1	5	1	4	1	52
5	13	4	3	1	2	5	1	2	31
6	18	1	4	3	2	5	1	—	34
7	11	1	2	1	4	1	—	—	20
8	4	1	—	—	1	2	1	1	10
9–10	3	2	—	—	—	1	2	—	8
10–15	8	8	7	5	5	4	1	1	39
15–20	3	2	1	—	2	—	1	—	9
Over 20	1	—	—	1	2	1	1	—	6
Total ...	154	39	28	16	30	27	22	9	325

Thus the top line shows that out of 325 cases of scarlet fever only three were under one year of age, and that of these one had very slight pyrexia, an area of less than five units—i.e., 0·5 of a square inch on the charts used. The other two had more severe attacks with areas of over two and over five square inches respectively.

In the first example we could not calculate the mean severity of eruption, since our six classes were not quantitative, and we had to fall back upon a less familiar way of attacking the problem. But in this example area is a measurable quantity, and we can accordingly find the mean area (i.e., the mean severity of fever) for each age-period. The results are as follows:—

Years of Age.	Mean area of temperature chart.	Years of Age.	Mean area of temperature chart.
0–1	34·1	8	34·7
1	28·8	9–10...	26·5
2	14·9	10–15...	14·6
3	18·9	15–20...	12·7
4	15·8	Over 20	31·6
5	23·9		
6	28·6	All ages	19·2
7	10·9		

Though the numbers at different ages differ considerably, it will be noticed that those means, based on considerable numbers of cases, cluster fairly closely round the mean of the whole and that the most discrepant values are based upon a small number of cases; also that there is no tendency for high ages to be associated with low values of area. In other words, the differences found are probably due to chance. A more satisfactory calculation can be made by using formulæ which apply to the figure as a whole—viz., those introduced by Bravais and Pearson. By them I have obtained the value of the correlation coefficient of the table[1]—

$$r = +0{\cdot}0072 + 0{\cdot}038.$$

These figures may be interpreted thus: The correlation between age and severity of fever in the 325 cases investigated is positive, showing a greater severity at greater ages. In magnitude, however, it is extremely small, and if another 325 cases were examined the laws of probability would lead us to expect the discrepancy between the two series to be about five times as great. In other words the table shows, as clearly as can be shown with the number of cases investigated, complete independence of age and severity of fever.

We have now two instances, one in small-pox and another in scarlet fever, of independence, or at least almost complete independence, of severity of symptoms with age of the patient. In both cases, however, the mortality-rate shows a very great alteration with age, as shown below:—

TABLE VI.—*Mortality Per Cent. at Different Ages in Scarlet Fever and Small pox.*

	Age-periods—Years.								
	0–5	5–10	10–15	15–20	20–30	30–40	40–50	Over 50	All ages
Small-pox, unvaccinated cases	48·3	18·0	23·1	25·1	35·5	48·1	75·0	55·5	33·2
Scarlet fever	6·09	1·88	1·44	0·63	1·90	0·71			3·26

If the quinquennium 0–5 be subdivided the variation with age becomes still more striking. The conclusion seems obvious that in these two diseases the great variation of mortality with age depends solely upon the vitality of the patient and is independent of the severity of the disease. Only one means of escape from this conclusion, which I confess was quite unexpected by myself when I started to collect the facts, seems possible; and I have no doubt that some critics will avail themselves of it.

We have taken in each disease one symptom only as criterion of severity. Is this justifiable? Does not the mortality test sum up all the phenomena of the disease in a perfect manner, so that the mere use of a single symptom is comparatively unreliable? To this objection the proper answer would be to take the various symptoms in order and see whether the high death-rate in early childhood could be ascribed to any of them. In small-pox this course was not possible for me; and in scarlet fever for a long time I considered that the facts could only be ascertained after a vast amount of labour, such as might take many years to carry out. For instance, the severity of scarlet fever rashes might be estimated by comparing the colour of the patient's skin with a set of standard shades of red and crimson. But it would take some time to get several observers used to working with these, and a further period for the collection and reduction of the observations. Only recently did it occur to me that for our present purpose such a high standard of accuracy is not required. The published statistics of fever hospitals show year by year that the mortality of scarlet fever in patients under two years of age exceeds about ten times that of the disease at the prime of life, say from 10 to 25 years of age. The tables given above show that this excess mortality in infants is not due to an excessive severity of fever. If it were due to excessive severity of rash or of throat lesion we must have severe throats and rashes preponderating amongst the younger children to an extent that would show itself in the notes taken by ordinarily careful clinical observers, and special observations *ad hoc* are not necessary. I accordingly took 100 consecutive reports of cases from the bed-cards of the South-Eastern Hospital and wrote a special slip for each case, noting (1) the age; (2) the severity of the rash; (3) the duration of rash, if noted; (4) the severity of throat lesion; (5) the presence of complications; (6) the duration of fever; (7) the maximum height of fever; and (8) the result—i.e., death or recovery. From these slips it was possible by sorting to examine into the connexion between age and any of the other factors, or between any pair of the latter. In short, it was possible to compile 56 different correlation tables, out of which I publish the following as sufficient to show (*a*) that there is little or no correlation between age and severity of rash or throat lesion; but (*b*) that there is moderate or high correlation between certain other pairs, such as throat lesion and maximum height of fever, and rash and maximum height. The notes as to rash varied a little in terminology with different observers, but seemed to fall most naturally into four classes—faint, ordinary, marked, and vivid.

[1] The table given is abridged from that in Dr. Lowson's and my paper. The value given above was calculated from the full table.

TABLE VII.—*Rash and Age.*

Years of age.	Rash.				Total.
	Faint.	Ordinary.	Marked.	Vivid.	
0–1	—	—	—	—	—
1	—	1	1	1	3
2	6	1	1	—	8
3	4	3	1	4	12
4	5	7	1	1	14
5	4	5	1	1	11
6	3	8	2	1	14
7	4	7	1	—	12
8	2	3	—	1	6
9	—	4	1	—	5
10	1	—	—	1	2
11	1	2	—	1	4
12	—	2	2	—	4
13	—	1	—	—	1
14	—	—	1	—	1
15	—	—	—	—	—
16–17	1	1	—	1	3
Total	31	45	12	12	100

We cannot, as in Table V., calculate the mean severity of rash for given ages, as our divisions are not quantitative, but it is possible to examine the table by working out the mean ages for given severity of rash, and we obtain:—

Rash, faint ... ... Mean age, 5·76 years.
" ordinary ... ... " 7·23 "
" marked ... ... " 7·42 "
" vivid ... ... " 6·58 "

A more satisfactory method is to group the whole 100 cases in only four divisions retaining two age-periods, 0–5 and 6–16, and two grades of rash, faint or ordinary and marked or vivid. We get the following:—

TABLE VII.A.—*Rash and Age.*

Years of age.	Rash.		Total.
	Mild.	Severe.	
0–5	36	12	48
6–16	40	12	52
Total	76	24	100

Mere inspection shows that the agreement between the facts and the hypothesis of complete independence of age and severity of rash is as close as could be expected with 100 cases; but we can calculate the degree of dependence as follows: multiply the figures in opposite quadrants together, then take the ratio of the difference of these two products to their sum. This formula, called Yule's coefficient,[2] gives—

$$\frac{40 \times 12 - 36 \times 12}{40 \times 12 + 36 \times 12} = 0{\cdot}052$$

Pearson has given formulæ for four-fold divisions, such as the above, which are probably more correct on theoretical grounds, but are much more tedious to calculate. In the above case Pearson's formulæ give—

$$r = 0{\cdot}039.$$

The connexion is between high age and mild rash, but is so slight as to be negligible. We can examine throat severity in a similar way. The notes on this gave five natural classes, clean throats, either red or red and swollen, and dirty throats, with slight, moderate, or much deposit. In the following table only four divisions have been used.

[2] With both Yule's and Pearson's formulæ 1 would represent perfect correlation—i.e., that for every age there occurred only one fixed type of rash—and 0 would represent no correlation—i.e., that various types of rash occurred indiscriminately at all ages, which is practically what does occur.

TABLE VIII.—*Throat Lesion and Age.*

Years of age.	Throat.				Total.
	Clean.	Dirty.			
		Slight.	Moderate.	Severe.	
0–1	—	—	—	—	—
1	3	—	—	—	3
2	6	—	1	1	8
3	6	1	3	2	12
4	11	1	1	1	14
5	8	1	2	—	11
6	10	2	1	1	14
7	9	—	3	—	12
8	2	—	3	1	6
9	5	—	—	—	5
10	1	1	—	—	2
11	2	—	1	1	4
12	3	—	1	—	4
13	1	—	—	—	1
14	1	—	—	—	1
15	—	—	—	—	—
16	3	—	—	—	3
Total	71	6	16	7	100

TABLE VIII.A.—*Throat Lesion and Age.*

Years of age.	Throat.		Total.
	Clean.	Dirty.	
0–5	34	14	48
6–16	37	15	52
Total	71	29	100

$$\text{Yule's coefficient} = \frac{34 \times 15 - 37 \times 14}{34 \times 15 + 37 \times 14} = -0{\cdot}008$$

Pearson's " $= -0{\cdot}006$

The correlation is thus even less than in the last instance. The negative sign means that high age is associated with mild throat lesion though only to an insignificant extent.

As a contrast to Tables VII. and VIII. the following two show a high association between severity of throat lesion and rash respectively and severity of fever, and the next a moderate association between the two former factors.

TABLE IX.—*Rash and Maximum Temperature.*

Maximum temperature.	Rash.				Total.
	Faint.	Ordinary.	Marked.	Vivid.	
98°–99°	3	—	—	—	3
99°	6	6	1	—	13
100°	11	14	1	1	27
101°	1	7	3	1	12
102°	5	6	4	3	18
103°	4	10	3	5	22
104°–105°... ...	1	2	—	2	5
Total	31	45	12	12	100

In Table XI. the correlation is rather irregular, that is, there is a higher proportion of clean to dirty throats in the middle row than in either the top or bottom row. Accordingly, we do not fairly represent the facts by condensing either the two top or two bottom rows to make the division fourfold. A fair result can be obtained either by working out both methods and taking the mean or by splitting the middle row into two halves to get a fourfold table. By the latter method I have calculated Yule's coefficient as + 0·146. The

TABLE IX.A.—*Rash and Maximum Temperature.*

Maximum temperature.	Rash.		Total.
	Mild.	Severe.	
101°	48	7	55
101° or over	28	17	45
Total	76	24	100

$$\text{Yule's coefficient} = \frac{48 \times 17 - 28 \times 7}{48 \times 17 + 28 \times 7} = +0{\cdot}612$$

TABLE X.—*Throat and Maximum Temperature.*

Maximum temperature.	Throat.					Total.
	Clean.		Dirty.			
	Red.	Red and swollen.	Slight.	Moderate	Severe.	
98°	2	—	—	—	1	3
99°	4	8	—	1	—	13
100°	8	13	2	4	—	27
101°	7	4	—	1	—	12
102°	5	6	1	4	2	18
103°	5	7	3	6	1	22
104°	1	1	—	—	3	5
Total ...	32	39	6	16	7	100

TABLE X.A.—*Throat and Maximum Temperature.*

Maximum temperature.	Throat.		Total.
	Clean.	Dirty.	
101°	46	9	55
101° or over	25	20	45
Total	71	29	100

$$\text{Yule's coefficient} = \frac{46 \times 20 - 25 \times 9}{46 \times 20 + 25 \times 9} = +0{\cdot}606.$$

TABLE XI.—*Throat and Rash.*

Rash.	Throat.		Total.
	Clean.	Dirty.	
Faint	22	9	31
Ordinary	35	10	45
Severe	14	10	24
Total	71	29	100

correlation is much lower than in the two preceding instances, and being irregular must be regarded as not very certain. A larger number of cases or a more careful system of note-taking might, however, show it to be real.

The foregoing examples suffice to show that high correlations exist between certain pairs of symptoms in scarlet fever but not between age and either of the three most obvious of the symptoms in this disease—viz., rash, throat lesion, and pyrexia.

II. *The inconvenience of the mortality rate as a test of severity.*—Those who have followed the first part of this paper will probably have already thought of most of what I propose to say under the second heading. Nothing is commoner in medical discussions than to hear it said that certain problems ought to be settled by statistics, and yet hardly anything is rarer than to see these vexed questions actually argued out and settled by an appeal to the facts—i.e., statistically. Various problems no doubt occur to all, but those I allude to may roughly be classed into the effects of treatment and the effects of other factors in the environment. To take examples from my own specialty, medical men who treat scarlet fever differ in some details of treatment, such as the routine time for keeping the patient in bed, the treatment of the throat, the amount of diet allowed both in the acute stage and in subsequent nephritis. Apart from treatment, many other questions have been raised, some of them of great theoretical or practical interest. Do fever wards get more unhealthy with continued use? Are such complications as post-scarlatinal otitis and nephritis infectious? Is there any evil result from overcrowding in fever wards? What effect has poverty on severity of disease? Are there differences due to difference of race, as between aliens and natives?

In the Metropolitan Asylums Board hospitals, with an experience of 20,000 scarlet fever cases a year, one would think that ample material was available for settling in the course of a few months, or at most in a couple of years, every one of the above questions. Yet very few of them have even been seriously attempted and the results of the attempts so far made have not always been as conclusive as could be desired. And one important cause contributing to this has been the very low death-rate in scarlet fever. In the last published volume of the Metropolitan Asylums Board reports the death-rate for all hospitals was 2·94 per cent. That is to say, that in 1000 cases one would expect about 29 deaths. Time and opportunity rarely allow any careful experiment to be made on any much greater number than this, so we require to know what would be the difference from 29 deaths per 1000 which would convince us that our treatment had been improved or that any other change had really happened in the conditions. A knowledge of the laws of probability would teach us that not unless the deaths fell to 15 or 19 per 1000 should we have good reason for supposing that we had anything beyond a chance variation. A knowledge of the mathematical formulæ appropriate to the case is not very widespread among medical men, but there is an equivalent deeply ingrained in the minds of those who are most familiar with statistics. Those who see scarlet fever cases by the thousand are well aware that any reduction in case-mortality that can be hoped for by improved methods of treatment will be too slight to be shown conclusively by working with death-rates. Theoretically the difficulty could be overcome by working out a sufficiently extensive series of cases; in practice this is improbable. The difficulty of insuring uniformity of treatment (or other conditions) over 10,000 cases is very great and the time occupied in the experiment would probably cause disturbance in the results from the slow alteration in type that goes on from year to year. On the other hand, if we use other criteria of severity, as in some of the instances given above, it is easy to find a line that divides the cases into two approximately equal divisions. Here with only 100 cases it might be possible in some problems to get a decisive result, and where 1000 cases are available a definite answer to any statistical problem would be almost assured.

The only important argument in favour of death-rates and complication rates, as against criteria obtained by measuring the severity of symptoms, is the risk of high personal equations in the latter. The risk is not so great as most people assume. It is quite possible to choose criteria of severity that are little affected by it—e.g., the duration of fever or the area of a temperature chart. And even in other non-measurable characters the adoption of standard degrees of severity for the purpose of collecting observations would not be very difficult, if only observers were convinced that it was worth while.

A concrete case or two will make my meaning clearer. A problem of considerable theoretical interest is this. "Are cases of scarlet fever contracted inside a fever hospital more severe than those contracted in the usual way?" Since the reopening of my own hospital 18 months ago 78 such cases have occurred with only one death. The death-rate has therefore been 1·28 per cent. The death-rate usually met with in my own and kindred institutions is about 3 per cent. The last published figure for my own hospital on 1001 cases was 2·52. Taking the latter figure, the death-rate amongst the cases caught in hospital is less than half that found amongst ordinary cases, yet the evidence in favour of a change in severity is very inconclusive. It is by no means uncommon to get a run of 78 cases with only one death and the difference in the two series might easily be due to chance. Mathematically calculated, the difference of the

death-rates is 1·24 and is not much larger than the probable error, which is 0·92. Such a difference might therefore very often arise as a chance effect. The severity of the cases, however, lends itself to measurement in many other ways, two of which I have used in attacking this problem. Classified according to duration of pyrexia the 78 cases caught in hospital were grouped as follows :—

Duration in days	0	1	2	3	4	5	6	7	8	9	10	11
Number of cases	4	8	10	20	9	7	3	4	2	1	1	2

Days (*continued*)	12	13	14	15	16	17	18	19	20	21	22
Cases (*continued*)	1	2	—	1	—	1	—	—	1	—	1

Giving a total of 78 cases.

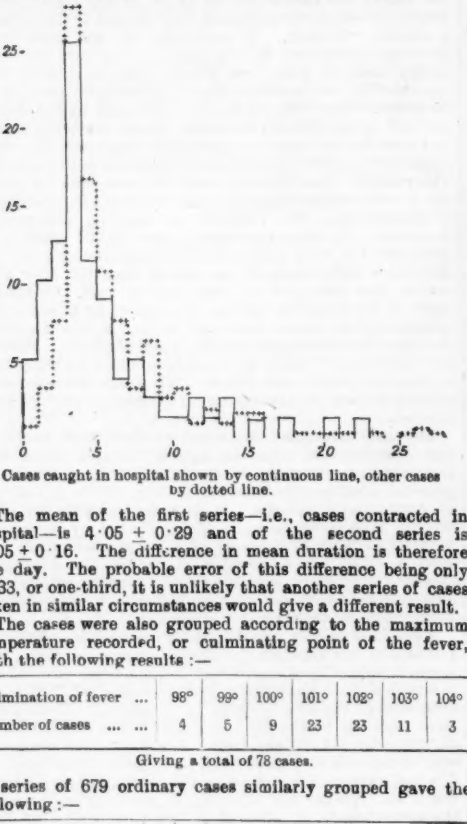
A series of 314 ordinary cases all admitted on the first or second day of disease gave the following :—

Duration in days ...	0	1	2	3	4	5	6	7	8	9	10	11	12	13
Number of cases ...	2	10	24	88	53	34	24	10	20	8	10	3	6	3

Days (*continued*) ...	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Cases (*continued*) ...	5	5	—	—	1	1	1	1	—	1	—	1	2	1

Giving a total of 314 cases.

The two series, reduced to percentages in each case, are shown together on the annexed chart, where the vertical line of figures shows the number of cases per cent. and the horizontal line of figures the duration of fever in days.



Cases caught in hospital shown by continuous line, other cases by dotted line.

The mean of the first series—i.e., cases contracted in hospital—is 4·05 ± 0·29 and of the second series is 5·05 ± 0·16. The difference in mean duration is therefore one day. The probable error of this difference being only 0·33, or one-third, it is unlikely that another series of cases taken in similar circumstances would give a different result.

The cases were also grouped according to the maximum temperature recorded, or culminating point of the fever, with the following results :—

Culmination of fever ...	98°	99°	100°	101°	102°	103°	104°
Number of cases	4	5	9	23	23	11	3

Giving a total of 78 cases.

A series of 679 ordinary cases similarly grouped gave the following :—

Culmination of fever	98°	99°	100°	101°	102°	103°	104°	105°
Number of cases ...	162		131	157	128	90	10	1

Giving a total of 679 cases.

The mean of the first series is 101·795 ± 0·10 and of the second series 101·167 ± 0·037 and the difference is 0·63 ± 0·11 degrees. Summarising the above evidence, cases of scarlet fever caught in hospital tend to have higher fever, which, however, does not last so long. The death-rate also appears to be less. The first two conclusions are, however, almost certain ; the third is well within the limits of chance error.

A second problem of considerable practical importance is the dosage of antitoxin in diphtheria. In spite of the elaborate reports issued during the early years after the introduction of antitoxin into this country the proper scale of dosage remains still very uncertain ; and I think the current doctrine on the subject consists more of *ex cathedrâ* statements than of proved facts. Quite recently the medical superintendents of the Metropolitan Asylums Board discussed this matter and a considerable divergence of opinion was shown. Surely the problem is capable of solution, but not if we rely on the death-rate as the only fact worth observing. Even if two hospitals be compared, each treating 500 or more cases a year, and one hospital employing on an average double the dosage of the other, I doubt if any differences observed in the death-rates would convince anybody. The advocates of the system which showed the higher death-rate would assume that the rival hospital got a larger proportion of mild cases. Our obvious duty, therefore, is to devise some method other than the death-rate for measuring the severity of cases, and if clinical observers set themselves seriously to this task I see every reason for believing that almost all problems connected with the efficacy of treatment of common diseases could be solved, say, within one or two years of their being propounded.

New Cross, S.E.

EXCISION OF THE RECTUM FOR CARCINOMA.

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THE risk associated with the operation of complete removal of the rectum and of all infected mesenteric glands is so considerable that I have made many attempts to minimise it by modifying my operative procedures. I am not referring to such measures as that known as Kraske's operation which, in my opinion, is unsatisfactory for many reasons. The operation that I have adopted for some time appears to me to effect the maximum of benefit to the patient with a minimum of risk and discomfort. The last feature—namely, the absence of discomfort—is of paramount importance inasmuch as the sufferer is already sufficiently depressed by the very serious nature of his malady. I only apply this procedure to cases in which it is not possible to resect a portion of the bowel to establish continuity. I make use of it in cases in which it is advisable to remove the growth and all infected tissues, and when the patient is prepared to accept the very trifling inconvenience of a colotomy in the immediate vicinity of the middle line in the substance of the rectus. The younger the patient the more necessary is it that a very radical operation should be performed. The principle involved in this operation is the separation of the peritoneal space contained in the true pelvis with the diseased portion of the intestine from the general peritoneal cavity. This prevents any chance of a general infective peritonitis when the rectum is removed from below and obviates the formation of adhesions involving the small intestines, since no raw surfaces are left in the pelvis to which the bowel can become attached.

The procedure is as follows. A vertical incision is made three-quarters of an inch to the left of the middle line from the umbilicus downwards for about four inches. The opening is formed in this situation as it affords easy access to the pelvis and to the sigmoid flexure. In these cases the sigmoid flexure is almost always pinned down by adhesions. These are of the same nature and perform the same function of obliterating the loop as in obstruction due to constipation. A further reason is that in this situation a firm scar can be obtained in which the rectus muscle controls more or less completely the exit of material from the bowel. The patient being placed in the Trendelenburg position and the pelvic cavity being rendered fully accessible by the use of suitable retractors, the growth is carefully

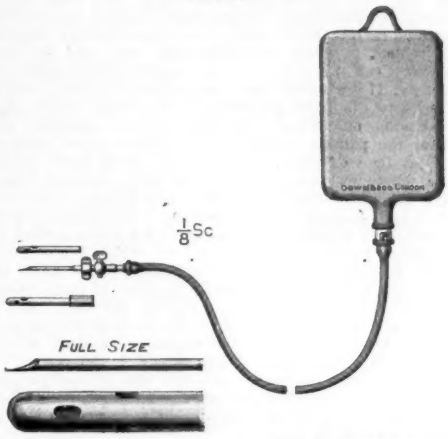
defined, together with any infected glands or mesentery. The sigmoid flexure is rendered mobile by the careful separation from it and from the meso-sigmoid of the acquired adhesions already referred to. A sufficient length of bowel having been drawn out of the abdomen, it is divided with the cautery at such a point as to leave two or three inches of the proximal bowel protruding from the abdominal incision after the edges have been approximated by sutures. The mesentery of the distal bowel is separated from the sacrum as far down as possible and a ligature is tied firmly round the rectum at its lowest limit above the growth, any infected mesentery above the level of the ligature being thoroughly eradicated. The rectum is divided by the cautery immediately above the ligature. The ligatured stump is then inverted into the rectum and securely buried by purse-string and other sutures. Then the peritoneum of the pelvis lining its wall and the bladder in the male, and the uterus and broad ligament in the female, is picked up on a catgut suture so that that portion of the peritoneum of the pelvis which contains the rectal growth is completely separated by an artificial diaphragm from the general peritoneal cavity, and whatever disease still remains lies entirely below the protecting diaphragm which has thus been constructed. A curved tube fitted with a special rubber apparatus (Fig. 1), which I have employed for

FIG. 1.

many years, is then tied into the portion of the sigmoid flexure left protruding from the abdominal incision, all fouling of the wound or discomfort to the patient during the whole period of convalescence being absolutely avoided by this means. The two or three inches of gut projecting from the wound is utilised to re-attach the glass tube as each section of bowel sloughs off with the constriction due to the ligature till the bowel is divided flush with the skin. This leaves a perfect aperture which is readily controlled by the rectus muscle and over which a cup and belt is worn without inconvenience.

After the operation the patient is put upon continual saline injections subcutaneously. Two pints are introduced into the axilla at once while the patient is still under the anæsthetic; during the three days following the operation about eight or ten pints are absorbed in this way by continued transfusion. To meet any risk of infection of the material introduced I devised an arrangement by means of which this can be effectually eliminated. It has also the advantage of occupying a very small bulk in the bag of the surgeon. It is made for me by Messrs. Down Bros. It consists of a bag made of the best rubber capable of containing two pints of water (see Fig. 2). It has a metal orifice sufficiently large to admit of the ordinary salt "tabloids." To this is joined a rubber tube by means of a bayonet catch, to which a suitable needle can be attached. This needle is fitted with a shield which serves the double purpose of keeping it covered after sterilisation and preventing any blunting of its point. A rectal nozzle is also supplied in the event of the surgeon wishing in certain cases to introduce the solution into the rectum. By using saline solution subcutaneously in this manner any sickness with the strain on the wound and the associated pain and distress is absolutely avoided, while the danger of shock to the patient from the operation is reduced to a minimum. I first employed this continual transfusion with the most marked success in cases in which I had removed the big bowel, with the result that the risks from the operation are very much reduced, while I believe the tendency to the formation of

FIG. 2.



adhesions about the dilated small intestine, which is an occasional annoying sequence, is apparently obviated by it. The bag can be placed in any situation in or above the bed and its contents can be kept warm by placing it on a hot-water bottle, &c. If the solution does not run freely pressure can be exerted in it readily or it may be suspended at a greater height. To employ it the bag is filled with water after the salt has been introduced into it. The shield, tubing, and needle are then connected and the whole thing is put into any suitable vessel and boiled. The shield being taken off the needle, it is introduced between the cleansed skin and is fixed in position with a suitable dressing so as to assure asepsis at the seat of puncture.

After a fortnight has elapsed the remainder of the rectum is removed from below. This is done by a careful dissection of the rectum from the sacrum and from the bladder or vagina till the portion of the peritoneal cavity which has been shut off by the artificial diaphragm is encountered. From this peritoneal space into which the finger enters the remainder of the rectum is easily removed. The cavity left is drained in the usual manner and closes up rapidly.

One satisfactory result of this method of operating is that before the second step in the operation the patient gets about with comfort, and after the second step the sitting posture can be resumed after the lapse of a few days.

Cavendish-square, W.

THE METHODS OF PRIMITIVE MIDWIFERY.

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I.

I WILL introduce my subject by quoting a description of present-day practice as observed by a member of our profession who was for many years in charge of a mission hospital in South India, who has kindly communicated it to me verbally. It gives an excellent illustration of the methods to which the reader's attention is invited.

When a Hindu woman is in labour all her relations crowd into the room. In an ordinary case they may let the woman go on as best she can, but in any case of difficulty they call in a so-called "barber woman." She is supposed to know something and claims to know a great deal, but as a matter of fact is completely ignorant and filthily dirty. Suppose the labour to be lingering or the case to be primiparous and that delivery does not follow as soon as expected, then

various expedients of cruel and brutal nature are adopted. For instance, they may jump on the body of the woman as she lies upon the floor. They may try to seize any presenting part and tear at it, perhaps even pulling off the scalp of the child. They may tear the vulva and vagina or use knives in a senseless endeavour to make a way for the child. The woman may be made to sit over hot ashes and burning twigs or charcoal. When she is very far gone they may at last send for the medical missionary, who may find the patient severely burned or lacerated, bruised and bleeding. The bladder may be ruptured, the abdomen greatly distended, the patient pulseless and insensible. She may die before anything can be done or may expire immediately after delivery. If the burned cases survive the first shock they will very likely die from gangrene, or the whole of the vagina and bladder may slough, and tetanus is very common. After labour the patient is kept lying on the floor for three days without food or drink. The baby is given cow's milk at once, which upsets it. It is against their religious ideas to wash the child till the tenth day. A large proportion of the newly-born children die from tetanus. The mothers are considered to be unclean until the eighth day and are often kept outside of the house in a little shed, which is a dark room like a cupboard. After their first bath they are taken back into the house but if fever set in the bath of purification is delayed until they are well, if they do get well. If these women are treated rightly in childbirth their labours are as easy and normal as are those of women in England, probably more so on the average. When labour is delayed, or they desire to produce abortion, a powerful and irritant poisonous drug is sometimes administered, the nature of which is not known to us. It causes severe pain and green vomit and seems always to be fatal.

A second similar illustration is taken from the *New York Medical Record* for January, 1906, where Dr. W. D. Bell describes observations made during a residence of 13 months on the island of Luzon in the Philippines. He says that the so-called safety supposed to exist amongst savage peoples in childbirth was not found in these islands, for barbarous practices and tortures with far-reaching consequences were what were really observed. No attention was paid to the sanitary surroundings of the patient. As soon as the first real pains manifested themselves the patient was held on the ground and a cloth was passed around the abdomen and the four ends were pulled by four persons seated on the ground with their feet against her body. As soon as a portion of the child presented it was immediately seized by a fifth assistant and vigorously dragged upon, regardless of consequences. If any delay occurred a plank was laid across the abdomen on which a native assistant stood, raising himself on his toes and coming forcibly down on his heels. This was usually successful except in breech presentations, when a rude attempt at version was made with hands innocent of any effort to cleanse them. Few cases escaped laceration and sometimes the uterus was ruptured. If the same means failed to expel the placenta forcible traction was made on the cord and very often parts of the placenta were left behind, with the usual consequences. Prolapse, inversion, and puerperal sepsis were frequent here, also chronic endometritis. Syphilis and gonorrhœa were also common.

II.

The development of obstetrics falls into three stages. First, there is the *primitive stage*. This is characterised by the absence of all literature and of all knowledge of anatomy and physiology, and by an overwhelming amount of superstition, by the crudeness and absurdity of its ideas and the barbarity of its methods. It is almost without exception in the hands of women. In the second or *intermediate stage* we find the beginnings of obstetric literature and some attempt to describe the various positions of the fœtus in the womb and to lay down rules for treatment. The practice of midwifery is almost wholly in the hands of women, but men are called in in very bad cases to help. The treatises are written by men for the guidance of midwives. Version and embryotomy begin to be described but not forceps. The third or *scientific stage* may be said to begin about the time of Ambroise Paré in the sixteenth century, and its history has often been written. The intermediate stage has its dawn in the ancient Hindu physicians, such as Susruta, and there may even yet be recovered some of the lost literature of Egypt which will show more obstetric knowledge than we at present credit to those times. An account of their obstetric knowledge will be found in Mackay's "Ancient Gynæcology." Literature practically begins for us with the writings of Hippocrates and his followers in the fourth century B.C. Ancient obstetrics reached its high-water mark in the works of Soranus and his translator Moschion in the second century A.D. From this time it made very little advance till the time of Paré—in fact, there was decided retrogression during the middle ages.

Midwifery was in the primitive stage from the earliest times till the days when Greek learning made a bright spot in the general darkness, and it remained primitive throughout the centuries except where Greek, Roman, and Arabian medicine spread, and even here obstetric art was but too little removed from the realm of superstition and ignorance. It remains primitive to-day wherever Western science has not spread and forms a most interesting field for the study of the obstetrician and ethnologist. The human race has shown wonderfully little precocity in the practice of obstetrics. Nations who have perfected the arts of agriculture and of the chase, who have forged offensive and defensive weapons, built temples and palaces, woven textile fabrics, produced pottery, sculpture, poetry, and philosophy, have remained woefully ignorant of an art which, if necessity begets invention, might, one would think, have been one of the oldest and most advanced known to mankind. To some extent this may be due to the fact that the management of childbirth has been so very largely in the hands of women. The history of the race seems to show that all the mechanical arts have been developed not by women but by men. Obstetrics never began to develop till men took it from the exclusive practice of women, studied the mechanism of childbirth, and supplied the necessary mechanical aids. But man has no place in primitive obstetrics; uncivilised man would certainly decline to concern himself with such woman's affairs. She is regarded as an inferior being. As one writer says: "She is worth so little, so easily replaced; she is good for the bearing of children, to look after them, and to give satisfaction to her master, and especially to do the work of the field. As soon as she is a nuisance she is left, sold, killed, possibly eaten." It is certain that if scientific treatment were available but its cost exceeded the market value of the woman it would be refused. The birth of scientific midwifery coincided with the revival of learning, the introduction of printing, the Reformation, the discovery of the new world, and the introduction of inductive methods of research. The exalted estimate of the value of woman's life which the spirit of chivalry engendered prepared the way.

In studying this subject I have made use of Herrgott's French edition of Siebold's "History of Obstetrics" and also of the valuable historical sketch prefixed to Winckel's colossal "Handbuch der Geburtshülfe," but more especially of Ploss's ethnological monograph "Das Weib in der Natur- und Völkerkunde" (eighth edition, by Dr. Bartels, 1905). Also of Engelmann's "Labour amongst Primitive Peoples," and Mackay's "History of Ancient Gynæcology." There are various other papers scattered through the journals of the Anthropological Institute and elsewhere. An almost exhaustive bibliography will be found in Ploss, Vol. II.

The subject has two aspects. One is concerned with various rites, superstitions, and customs which have little or no direct bearing on the progress and welfare of the parturient woman, such as the various deities that have to be propitiated. These I pass by here. Secondly, there are various modes of practice (or malpractice) which bear directly on the obstetric management of the case and on the issue as regards mother and child. This attempt to give a concise, though by no means exhaustive, review of these will, I hope, interest those who may not have paid much attention to the subject. Perhaps this article may lead some readers of THE LANCET who have the opportunity of first-hand study of the practices referred to to add to our knowledge by recording personal observations, such as those which have already been given in this paper.

The question has been raised as to how far any obstetric art is necessary amongst uncivilised people. Are there not many of the primitive races where the process of parturition is so easy that difficulties and fatalities are rare? The answer gathered from Engelmann and Ploss seems to be that so long as the woman lives in a perfectly natural state, leading an active outdoor life and taking her share in manual toil, labour is usually short and easy and the process remains purely physiological and is only a rather difficult physiological evacuation. So that we find amongst nomadic

tribes that a childbirth may be only an incident in a day's march, the woman after an hour or two resuming her walk carrying her newly born child, or mounting her horse and galloping on after her company, and many native races know almost nothing at all of a "lying-in" period. But on the other hand, as soon as the more natural conditions are interfered with difficulties and dangers arise. Even amongst the former class such conditions as the falling of the womb and of the vaginal walls have a notable frequency. Intermarriage of different races, especially of lower with higher, produces dystocia, and women with half-breed children often die in labour. But the evidence available suffices to make it abundantly clear that amongst untaught nations there is a very serious amount of ignorance, maltreatment, and brutality which entail a vast amount of suffering and death which might be avoided by the introduction of Western methods. Let no one adopt the comfortable notion that it is superfluous to seek to diffuse scientific obstetric teaching in the world. One object of this paper is to prove the contrary.

Let us take an example. China is known to be a land well advanced in certain arts. How is it with midwifery? In the *China Medical Missionary Journal* for 1890 Dr. J. C. Thomson tells us that Chinese women naturally suffer less and have easier deliveries than Western women, but owing to the violent massage and other manipulations to which they are subjected the severest ruptures and lacerations are seen, with all the inevitable consequences of sloughing, necrosis, sepsis, and death. The mortality in childbed is excessively high, and he says: "In the practice of obstetrics in China we see century after century of the blindest empiricism, with no ray of medical science to shine into the habitations of cruelty."

As examples of the atmosphere of ignorance and superstition in which such races dwell I may remind the reader that many races recognise no death from natural causes, ascribing all fatalities to witchcraft or "the evil eye," or to the malevolence of some supernatural being. We find such absurdities as the custom of putting the husband to bed when the child is born, whilst the wife waits upon him.[1] Amongst one tribe of Finns the pregnant woman changes her shoes every month to throw off her tracks the devil who is waiting to devour the newly born child. The Chinese hold that pregnancy may last for three years if the child does not wish to leave the womb. The Indian women will whisper to the unborn child that a rattlesnake is near so as to induce the child to leave the womb. Chinese women will wear stockings which have been blessed by the lama, so as to expedite delivery, and will swallow pilules of paper on which magic words are written, while for cross-births a remedy is found in the ashes of the husband's hair. Examples of such puerile and ludicrous practices could be multiplied indefinitely.

III.

We will now consider some of the actual methods employed in primitive midwifery with some allusion to traces of the same amongst more civilised peoples. The different *postures* occupied by women in labour have been studied by Engelmann and Ploss and will be found described and illustrated in the works already referred to. The most common and natural position in ordinary cases seems to be a squatting posture, like that of defæcation, but almost every conceivable position has been noted.

Administration of internal remedies.—Of world-wide prevalence is the use of medicines to strengthen the patient, to ease her sufferings, or to excite uterine action. Probably every kind of aromatic drug has been employed for this purpose. The Hippocratic school esteemed silphion which the Latin calls laserpitium and which was perhaps asafœtida. The Romans used pomegranate and fenugreek, and the Arab physicians use an enormous number of drugs, and amongst European nations honey, myrrh, henbane, adderswort, castor, savin, mint, rue, pepper, cinnamon, figs, various balsams and oils, and so on, infused in water, wine, or beer. Amongst other nations than European we may select from many examples, turnip juice (Caribs), decoction of tobacco in cow or ewe milk (Hottentots), decoction of opium (Chinese), the powdered vertebræ of the electric eel (Venezuelans), slippery elm (North American Indians), and so *ad infinitum*. Nauseous and repulsive substances also may be employed such as cold water in which a woman has just washed her feet or even urine (a tribe in the Dutch East Indies), and sometimes irritant or poisonous substances. Emetics have been widely used. Engelmann depicts a midwife amongst the Kiowa Indians blowing an emetic into the mouth of a parturient woman. It is obvious that the straining caused might act on the uterus mechanically. The Chinese often excite vomiting and uterine action by thrusting the woman's own pigtail down her throat till she is sick. Sternutatories played a considerable part in ancient midwifery. They were condemned by Soranus but are advocated by Roesslin. Ergot does not seem to have been used until the sixteenth century. To deprive a woman of food or drink or both from the beginning to the end of labour is a not uncommon custom. This was the practice in Germany in the seventeenth century: while the woman was on the "birth-chair" absolutely nothing to take was allowed her. In some parts of India it is thought to be very dangerous for a woman in labour to drink water.

External remedies.—The use of unguents to facilitate delivery is one of the oldest practices in obstetrics. Susruta, whose date is anything up to 1000 B.C., recommends anointing of the external and internal genitals. Similar advice is given by Moschion, Aëtius, Paulus Aegineta, and Avicenna, and the practice has continued to the present day, and it is only modern aseptic ideas that exclude these miscellaneous lubricants. The abdomen also is rubbed with various medicaments. For example, I may mention the use of oil in Guatemala, of an infusion of an astringent plant in Mexico, of Kalapa milk in the Babber Islands, and of a mixture of fat and brandy in Galicia. The Greeks and Romans used medicated bougies or pessaries placed in the vagina or os uteri.

Baths and affusions.—These are also employed. For example, hot water is applied to the abdomen in Peru. Some Australian tribes pour cold water over the abdomen. In Doreh, in New Guinea, the parturient is held by two other women while a third pours cold water over her till the child is born.

Vapour baths and fumigations have a very wide distribution. Felkin gives a sketch from a tribe on the White Nile of a woman who is in labour and is squatting over a hole dug in the ground in which is a fire and over it a pot containing a decoction of herbs. The rising steam is said to make labour easier. Steam baths with medicated vapour are similarly used in Russia, in China, and in many other places. In Central California in difficult labour a plaster consisting of hot ashes and wet earth is placed on the abdomen. The Arabians used many such methods and in the oldest German works for midwives many substances are recommended for fumigation, such as galbanum, castor, cow's hair, sulphur, opopanax, and the dung of pigeons or hawks. In German South-West Africa in lingering labour the woman is placed in a bath or has applied to her body the abdominal viscera of a recently killed ox, while the still moist skin serves for a wrap. These are sufficient examples of very widespread practices.

Mechanical assistance to women in labour by employment of external force.—The idea that labour may be assisted by pressing or squeezing the abdomen is obvious, and very primitive, and has given rise to almost universal practice. It has a basis of sound principle in it, and applied within due limits and according to right methods it has a well-recognised place in obstetric art, but nothing that we shall discuss in this paper shows more forcibly how a right idea may be exaggerated and abused till it gives rise to the most brutal and dangerous malpraxis. Gentle finger pressure and massage, rhythmic and well designed, may really be of service in exciting pains and even in rectifying cross-births; and massage has been very widely practised in various times and amongst various races. The Japanese may be especially mentioned for their skill in this respect. As varieties and examples of the more violent methods of applying external force I may mention: 1. Violently kneading the abdomen of the parturient or giving blows with fists, knees, or feet, or by butting with the head. 2. Forcible compression with the arms. For this purpose the helping woman may sit behind the patient and compress the womb with hands clasped around the abdomen. Sometimes the husband or a strong man may be employed for this purpose. The woman may kneel or stand meanwhile or may even be hanging to a bar or partially suspended to a tree-trunk or branch. 3. The pressure may be made with a bandage surrounding the abdomen, the ends being pulled by one or more women or by a man. 4. Or pressure may be made by kneeling or standing on the patient's abdomen while she lies on her

[1] See Lubbock: Origin of Civilisation and Primitive History of Man, chap. i.

back, or made on her back while she lies on her face, while a pillow may be placed under the abdomen. Felkin depicts a woman on her knees leaning over a log whilst a bandage round the abdomen is twisted with a stick like a tourniquet, the pressure being applied intermittently. 5. Pressure is sometimes applied by weights. Heavy weights are used by the Tartars in Astrakhan, great stones in Serang, and warm bricks with great pressure (Malays). In the Philippine Islands a beam or plank may be laid across the abdomen and assistants may sit or stand on this. A carved wooden idol of great weight is used in Siberia. 6. The woman may stand and compress her body against a bamboo or may lean over a horizontal pole or cord. These violent methods often result in internal injuries, such as rupture of the uterus and bladder and other viscera. 7. Shaking the woman in labour was much esteemed in ancient Greece as a method of expediting delivery. A cloth was passed around her and she was shaken violently at least ten times. Then they laid her in bed so that the head lay downwards and the feet upwards, and the assisting women, who held the legs of the patient placed on their shoulders, shook her repeatedly to and fro. Soranus was wise enough to condemn this. As examples of the same barbarous method amongst savage races take the following: raising and shaking the woman with a jerk, as in shaking flour out of a sack (Mexico); rolling on the ground and then suspending by the feet and shaking (Southern India); and rolling violently in a blanket by four people and shaking in all directions. The woman may be slung to the branch of a tree by a cord running under the arms, whilst a woman hangs around her waist (Coyotero-Apachen Indians); or a man will take the woman on his back and run about shaking her (North-West Russia). 8. Another strange practice is to invert the woman with the idea of altering the position of the child into a more favourable one when delivery is delayed. This was done amongst the ancient Greeks. It has been observed in Algeria. Also amongst some Indian tribes this is done repeatedly, and if it prove of no avail the midwife inserts her hand and pulls at anything she can reach. Fatal results follow this treatment. An instance of extreme barbarity is reported by Stern and quoted by Ploss as occurring in Persia. In extreme cases the woman is held head downwards with the legs fully abducted, and the kabli, with rusty scissors or kitchen knife, cuts the perineum mercilessly. If the woman bleeds severely it matters but little, although the midwife would be blamed if the child's arm or leg were severed.

The serious nature of a transverse presentation is widely recognised. It is obvious that where no obstetric science is known a cross-birth will almost always be fatal. Various nations have made attempts to rectify the position of the fœtus during pregnancy and here and there some have learned how to do it by external manipulation. The prevalence of massage may depend partly on this idea. Metzger, quoted by Ploss, is of opinion that the women in Damaraland, South Africa, have a successful method of performing cephalic version by external manipulation. The art is handed down from mother to daughter. Lübbert says that the natives of German South-west Africa are well acquainted with cross-births and seek to rectify them by external manipulations, but if these fail they will put the parturient woman on a cart and drive her over a rough road to shake the fœtus into better position. Other crude attempts to rectify the malposition are recorded in various tribes.

That internal manipulations for the rectification of cross-births and other malpositions have been practised in the past to some extent is certain. The ancient Hindu understood how to turn for cross-presentation and how to deliver breech presentations by pulling down the legs. Probably the Talmudists refer to the same thing. The writings of Soranus give plain directions with figures for dealing with various presentations by cephalic and podalic version and the Japanese in this direction also show skill and knowledge. There does not seem to be much evidence of the practice of internal manipulations amongst savage peoples of to-day. Engelmann emphasises the rarity of such a method of manipulating within the vagina. As exceptions we may notice that the Calmucks have for a long time been able to perform version in difficult labour. The modern Greeks are said by Ploss to seek the help of shepherds in difficult cases, for these have experience in the delivery of sheep. Emin Pasha found in Unyoro in Africa men who were able in arm presentation to replace the arm and to turn the child in the womb. Version is said also to be performed in Massana in East Africa and also by midwives in Algeria.

To pull violently on any presenting part is, on the other hand, the most obvious way of attempting delivery by those who do not understand anything about the anatomy of the parts. It is a sign of advanced knowledge to know when to refrain from doing it. Arms are often pulled off this way. I have been privately informed of a confinement in Africa where the head presented but would not advance, when a cord was tied round the neck of the child and then carried through a wall to be pulled by men outside the delivery chamber. The head, as might be expected, parted company with the trunk.

Embryotomy.—The idea that a child may be delivered in a difficult case by cutting it into pieces as far as it can be reached might occur to the savage mind and from this might come the discovery of the fact that perforating the head often is followed by speedy delivery after previous long delay. Susruta describes embryotomy and so do the ancient Greeks, who also employed hooks to assist in extracting the fœtus. Soranus describes the operation of embryotomy and speaks of its use in hydrocephalus, and from this time onwards it is well recognised. Amongst other nations we find mention of embryotomy performed with a knife by the medicine men of the Sungari (Manchuria). Schoolcraft describes a case amongst the Dacota Indians of an impacted arm presentation. The arm was cut off and the child extracted piecemeal by thoroughly ignorant women. Similar crude embryotomy is described by Baumstark as being performed amongst the Warangi in the Massai steppe in East Africa, and the necessity of delivery by destruction of the child is recognised amongst the natives of German South-west Africa. It is also performed in the same rough and dangerous fashion in extreme cases by women in Sumatra.

Cæsarean section.—Post-mortem Cæsarean section is of very ancient date and was even enjoined in the law of Numa Pompilius, and the Talmudist Rabbis discussed the legitimacy of the performance of post-mortem Cæsarean section on the Sabbath day. Niebuhr in the eighteenth century observed the practice amongst the Hindus; the child was buried if dead and the mother burned. In Malabar also, according to Speerschneider, the child was excised and buried separately. Emin Pasha relates that in Unyoro if the mother died in labour the child had to be removed with the knife, whether dead or alive. To neglect this was of evil presage for all concerned. From Bosnia comes an account of a horrible superstition which led thieves and burglars to kill a woman in the seventh month of pregnancy, extract the child, and cut it in pieces to make a charm which made the inmates of a house sleep like the dead while a burglary was being accomplished. A similar superstition is made the basis of one of the Ingoldsby Legends ("The Hand of Glory"). It is said by Ploss that even in 1889 this frightful superstition was in force. The removal of a living child from the living mother is said to have been first performed in 1500 by Nueffer. In a lecture published in THE LANCET of Jan. 9th, 1904, p. 76, I have given an account of this case. There are references to the operation in the Talmud and in the Norse Sagas and other legendary histories. But that which is of special interest in this place is the evidence that amongst savage nations in recent years Cæsarean section has been known to be successfully performed. The best example of this will be found in a paper by R. W. Felkin in the *Edinburgh Medical Journal* for April, 1884, a very accessible reference which everyone who may be interested in this subject should read. Felkin saw one case in which it was proposed to perform the operation, but obtaining permission to examine the patient he found it to be a simple case of uterine inertia, and he delivered with forceps. In a second case he was not allowed to examine and did actually see the operation performed by a man in Uganda, both mother and child surviving. The uterus was not sutured, the abdominal wound was closed with pins that are compared to acupressure needles, and with string made from bark which held the pins together. The woman made a rapid recovery. Schoolcraft speaks of a case amongst the Chippeway Indians in which a man successfully delivered his wife of a living child by Cæsarean section, but he did not witness the operation. And a slave woman in the West Indies is said to have delivered herself by abdominal section.

Support of perineum in labour.—In a certain number of instances it has been observed that native women give support to the perineum in labour. The practice is rare, but there are some well-established examples, as in certain tribes in

Palestine, Russia, and India, and also in Japan and Persia. In the East Indies rags are sometimes stuffed into the anus and in Southern India a bag of ashes has been used to support the perineum. In our survey of primitive midwifery it is possible to find many grains of common sense amongst an overwhelming quantity of rubbish.

IV.

Treatment of the umbilical cord.—The widest differences are observed in this respect. The severance may be made by the father or by an assisting woman, or by the mother herself. It may be bitten through with the teeth, the mother even doing this for her own infant. It may be cut with sharp shells or sharp stones or pieces of wood, or with a kind of knife or saw fashioned from bamboo, &c. Sometimes the cord is ligatured with vegetable fibre or string, or may be tied in a knot. Many tribes never ligature. The cord is then often divided with a blunt instrument and being torn and crushed natural hæmostasis may be thus secured. Often some rough kind of styptic is applied to the fœtal end, such as ashes or charcoal or chalk. Sometimes it is cauterised with a glowing piece of wood or iron. In some parts of China the end of the cord is wrapped in oiled paper and then ignited. Fatal hæmorrhage is common when these primitive methods are in vogue. The cord may be cut close to the body, or, on the other hand, be left very long, sometimes even looped around the neck of the child. Umbilical hernia is a common result of such modes of treatment. The cord may be divided as soon as the child is born, or not till the placenta is delivered, and the placenta may undergo various anointings and washings first. Sometimes the child's body is twisted round directly after birth, so as to produce torsion of the cord.

Delivery of the placenta.—In very many cases where labour is easy the woman is delivered without assistance and remains squatting on the ground and straining till the placenta comes, as with patience it usually will. Sometimes, although the placenta is retained, no further efforts are made to extract it and this, of course, may lead to septic symptoms. To assist the delivery of a retained placenta all kinds of drinks are in use, also emetics, disgusting nauseants, and sternutatories. Sometimes the finger is thrust into the patient's mouth till she vomits or a lock of her hair is used for the same purpose; in China I am told by my friend Dr. C. Wenyon that the woman's own pigtail is thus employed. Barbarous methods are also common. The woman may be made to stand up and jump or be jolted by others. Amongst the Khirgis we read of her taking a wild ride on horseback over hill and dale to dislodge the retained placenta, often returning more dead than alive. The steam or vapour bath is used for this purpose also. To pull on the cord when the placenta is not delivered as soon as is deemed proper is a universal error. Fatal hæmorrhage, inversion, and prolapse follow this practice. Some tribes tie a stone to the cord and let the woman walk about. Others tie the cord to the thigh to prevent the imaginary danger of the placenta being drawn up into the abdomen. There are some tribes amongst the North American Indians who have learned that only gentle traction is permissible; it is obvious that when the placenta is lying in the vagina traction on the cord will appear to be a brilliantly successful method. Abdominal manipulations for the same end are common all the world over. They vary from gentle massage with perhaps inunction of oil to firm or severe hand compression of the uterus, violent kneading of the abdomen with fists, or pressure with hot stones placed on the abdomen. Worse still, a woman may stand on the patient's abdomen kneading violently with her feet; or, while the patient stands erect she may be clasped forcibly around the body. The abdomen may be compressed by a cloth passed around it and dragged or twisted with a stick after the manner of a tourniquet. Also water may be poured from a height on to the abdomen. That very serious injuries often result from the more violent measures it is unnecessary to say. Internal manipulations for placental extraction are not very common, but examples are recorded in various parts. Some of the North American Indian women have been known to introduce the hand, and so in India and some of the Pacific Islands. In German South-West Africa Lübbert has seen this done with very great care and very reasonable precautions. Here, also, the Japanese are distinguished by careful treatment of the third stage of labour.

Treatment of post-partum hæmorrhage.—All sorts of drugs and decoctions are in use. Kneading of the abdomen is a more rational remedy and doubtless is often effective. It is often done with great violence and we read of a woman being made to stand against a wall while another woman strikes the abdomen with her head or her knee (Indian tribe). Binding the abdomen is a common expedient. Various charms are in vogue and one cure is to make the woman swallow a spoonful of her own blood. In Annam post-partum hæmorrhage has been treated by laying the patient on her back while another woman treads on the abdomen, thus giving violent massage with her feet. Or she may be violently dragged by the hair. Cold affusion is sometimes used, or heat may be applied to the genitals till the pubic hair is singed. As the result of such treatment, of which the above are but a few examples, falling of the womb is very common.

The puerperal period.—With the idea that something must be done after delivery to restore the womb to its place we find amongst certain tribes such measures as massage and compression, various vaginal injections, the application of hot stones to the abdomen, or even violent tamponade of the vagina (tribe in Palestine). Especially noteworthy is the very widespread practice of applying heat, smoke, or steam to the woman in the puerperal period. This may be done by digging a hole in the ground, putting in hot stones, and pouring vinegar over them while the patient sits above. Or she may be exposed near a fire or may stand or lie above it. This is often carried out so severely that the mother is badly scorched or fatally burned. She may be kept in a small hut and the heating process continued for many days, and even a whole month. Flagrant examples of this are seen in Cochin China and amongst the Siamese, in New Guinea, in some Indian tribes, and in many other places. The child may share the treatment. Milder forms of vapour baths and fumigations have been common in various parts of Europe.

Most various are the customs in regard to bathing and ablution after childbirth. Religious belief governs this to some extent. Near Cape Horn a woman was seen to take four sea baths on the day on which she was confined. In another tribe we read of a woman being confined on the bank of a river and taking a plunge in the water immediately after. Others are washed two or three times daily, whilst on the other hand we find that all washing may be postponed for 14 days or more. Various medicated solutions may be used for the ablutions of the puerperal period. In Turkestan the woman after delivery has been known to be treated by wrapping the loins and abdomen in the skin of a black sheep just flayed alive, while the skin of a hare recently killed enwrapped her feet. To feed the woman after delivery on fluid or exclusively vegetarian diet or on some form of broth is very common. The most brutal practice we read of in this connexion is the refusing of drinks to the woman after delivery. In Malacca they may not drink cold water for 14 days. Among the Hindus, for instance, the custom is found of allowing the woman to hunger and thirst for five days, giving only some dry rice, and this in spite of the heat. This withholding of water even accompanies the barbarous treatment by scorching fire of which I have spoken. Sometimes women are made to drink urine. The idea that water is harmful and must be given in very small quantity is a barbarous notion, of which we have scarcely shaken ourselves free in the treatment of fever and post-operative thirst. Childbirth usually takes place in more or less seclusion, and it is a practice somewhat widely diffused to erect a special hut either near the house or at a considerable distance, say in the shelter of a wood, where the woman may pass the days of her lying-in, her husband being more or less attentive to her requirements or more or less completely neglectful of her according to local custom. On the other hand, the confinement may take place *coram populo*, with a crowd of interested spectators, who may contribute invocations or encouraging cries (Loyalty Islands).[2] Space forbids extending this article further, but fuller details will be found by the student in the authorities indicated. In India the education and provision of native midwives are promoted by such excellent institutions as those founded by Lady Dufferin and others. Many mission hospitals are doing similar work in various parts of the world. I know that it has been found in some parts of China that native Chinese women when properly trained are very apt to learn and make excellent midwives who can even use forceps with

[2] See Journal of the Anthropological Institute, vol. xix., p. 503.

skill. For those English and American ladies who having qualified themselves by a full curriculum at home have devoted their lives to helping their suffering sisters in regions remote from civilisation by skilful practice of scientific obstetric art we feel a degree of respect and admiration which is beyond expression.

Leeds.

OBSERVATIONS ON PHOSPHATURIA AND THE TREATMENT OF DISEASE BY CONVERSION.

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AN interesting article on the conversion of diseases in a work by Dr. John Ferriar, physician to the Manchester Royal Infirmary, entitled "Medical Histories and Reflections," published in 1795, opens with the following passage: "A disease is said to be converted when new symptoms arise in its progress which require a different designation and which either put a period to the original disorder or combining with it alter the physician's views respecting the prognostics or the method of cure." In the course of this article, which is now as suggestive as it was when written over 100 years ago, numerous illustrations from practice in support of his views will be found. I am mainly interested in one of Dr. Ferriar's references which provides an additional reason for ventilating the application of conversion in the instance I am taking. The reference is as follows: "It must be added that general fever sometimes cures local inflammation; Mr. Hunter says he has seen a gonorrhœa extinguished by the accession of a fever." Such an experience must not be unknown to many others.

It has not infrequently been observed in the treatment of chronic urethritis and muco-purulent discharges following it, irrespectively of the internal administration of alkalies and often imperceptibly to the patient himself, that the urine became altered in character and assimilated with that known as phosphaturia. And, further, that when this change was observed the cessation of the discharge or gleet, as it is commonly called, for which the patient had originally come under treatment, usually soon followed, either spontaneously or by treatment appropriate to the phosphaturic state without apparent reference to the cause which preceded it. This casual observation raised the question whether it was possible that there was any relationship between this incident and what followed, whether, in fact, the phosphaturic state of the excretion was inimical to the existence of the infecting bacillus. The observation was made so frequently as to suggest this and led to the systematic examination of the urine and other discharges for gonococci in all persons coming under treatment for gleet more carefully and frequently than previously. From them the following conclusions appeared to be grounded.

1. That in a considerable number of instances thus designated and of undoubted specific origin there was no evidence at the time of my examination that there was anything wrong with the urine or with any urethral discharge complained of inconsistent with the phosphaturic state alone. This condition was either apparent to the eye on allowing the urine to stand for a short time in a glass vessel or was evidenced by boiling the excretion when any cloudiness which followed was immediately removed by the addition of nitric acid. Here any pus corpuscles which the microscope detected were physically explainable by the crystalline precipitates the urine contained and which were often present in sufficient quantities to give this excretion a semi-purulent or opaque appearance. How or when this phosphaturic transformation took place in the history of an ordinary case of chronic infecting urethritis was not always easy to determine. In many instances which were carefully tested and microscopically examined this change appeared to mark the concluding stage of gonococcal life and was also often coincident or nearly so with the adoption of such treatment as the phosphaturic state usually requires. Further, these examinations showed how easily and frequently phosphaturia may counterfeit and be treated for a specific urethritis and even be intensified by the remedies commonly used for the latter.

2. The second inference was that the artificial production and temporary continuance of a state of phosphaturia might be utilised in the treatment of specific gleety affections following upon gonococcal infections. To produce a urine having the prominent features of phosphaturia by the administration of alkalies—bicarbonate of potassium was generally selected for this purpose—is not a matter of much difficulty or of any detriment to the patient. The effect on the urine should be sufficient to render it responsive to the usual tests, microscopical and otherwise, by which phosphaturia is recognised, and not merely to produce an alkaline reaction to test paper. Further, it is necessary to maintain this condition for some little time, during which period all local applications should be suspended. It will usually be found after a period of ten days or so and as the phosphaturic condition gradually passes off under the influence of altered treatment and diet appropriate to this state that no signs will be found such as were previously complained of. In some instances the artificially induced phosphaturia was slow in passing off, whilst in others its presence appeared to have been too limited to effect the desired object and required repetition. On the whole, however, the results have proved satisfactory. There was a time when infecting urethritis—at all events in its earlier stages—was very generally treated by the administration of alkalies, though the reason for this was not such as I am offering. I am not at all sure in the matter of rapidity of cure that we have much improved upon this older practice by the more mechanical processes which are now often substituted.

If these observations are found in their wider application such as I have construed them a more convenient and less unpleasant method of treatment may be arrived at. They have extended over some years, and though they may not embrace the whole truth they may be read in the light of a contribution towards it.

Lower Berkeley-street, W.

HÆMO-PERICARDIUM ASSOCIATED WITH SYPHILIS.

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THE following case came under my notice some time ago and presents some interesting features. The patient was a married man, aged 65 years, of German nationality. When first examined by me he was fairly well nourished and well developed. His expression was gloomy and unintelligent; he was partly demented; he retained a delusion that he had been given 129 pints of medicine in one dose at a hospital. No other symptom of megalomania had been forthcoming and his general condition alternated chiefly between emotional restlessness and apathy. The skin of his entire body was very dry and slightly jaundiced. On the skin over the sternum and the interscapular region were several scars of either circular or crescentic shape, each of the size of a large pea. There was a painless swelling on the anterior border of the right tibia of the size of a florin and below this and immediately above the ankle were several small cicatrices irregular in shape; on the left leg were several ulcers with "punched-out edges" below the tuberosity of the tibia, and several similar ulcers on each forearm and extending on to the dorsum of the hand, and vaccination marks on the left upper arm. He walked slowly and with some stiffness of the hip-joints; the patellar reflexes were diminished and delayed; his grasp was feeble. Babinski's sign was absent and ankle clonus was not elicited. His right pupil was larger than the left; both reacted sluggishly to light and for the process of accommodation; the consensual reflex was present. The hearing was bad on each side; his tongue protruded in the middle line and was fleshy and grossly tremulous and furred posteriorly. He had only four teeth in his mouth (in the upper alveolus) and those were carious. His palate was unduly arched anteriorly. The cardiac sounds were irregular in rhythm; a slight bruit was audible at the first sound; his pulse was 70 and the radial and temporal arteries were tortuous and thickened. The respiratory system was healthy. His appetite was good; his intestinal movements were performed regularly. The liver was tender but no enlargement or alteration in shape or surface was discoverable. There was a brown discolouration on the glans penis one-eighth of an inch in

diameter; the inguinal glands were hard but easily movable on each side. There was no urethral stricture. He was treated with antisyphilitic and cardiac remedies, chiefly sodium iodide and tincture of strophanthus, and considerable improvement occurred. The ulcers, which were dressed aseptically, healed rapidly, the swelling in the leg diminished, and the hepatic tenderness disappeared. The right inguinal glands still remained hard but his tongue showed more tremor on protrusion a few weeks after the ulcers had healed. On going into the water-closet one evening he became giddy and fainted, and though he rallied for a little time he died half an hour afterwards.

I am indebted to Dr. W. Lind Walker for his assistance in the post-mortem examination which revealed the following conditions. The basal arteries of the brain were markedly atheromatous, thickening of the arterial wall being noticeable in the anterior cerebral; no sign of cerebral or other hæmorrhage was present. The cerebral substance was so soft as to break down on touching slightly with the finger and was consequently not examined microscopically. The brain weighed 49 ounces. The right lung presented a calcified mass at the apex of about the size of a pigeon's egg. The heart weighed 11 ounces. The pericardium was distended with post-mortem clot. The coronary arteries were calcareous in character; the left one was ruptured 1½ inches from the aorta; at the seat of rupture was a small node of pale yellowish coloured material which extended about 1¼ inches into the myocardial substance, which was hypertrophied and around it the tissue was of fibrous consistency and tough under the knife. On the pericardial aspect the necrotic changes appeared to have involved the artery which lay on the gumma; the arterial wall where ruptured presented a star-shaped fissure. The aortic valve was thickened at the base of each cusp; the columnæ carneæ showed signs of fatty degeneration. The liver was congested. Nothing worth recording was found in the examination of the other organs.

Remarks.—Signs of marked distension of the pericardial sac were found on the occasion of the patient's collapse, and gentle percussion revealed dulness extending up into the second left intercostal space; the cardiac sounds were muffled and the respirations were stertorous in character; the pulse was imperceptible at the wrist. When found in the heart gummata are usually multiple and often of cartilaginous-like consistency; only the one described was found in this case. Virchow has described a case in which at the same time was found syphilitic disease of the testis; in the above case the testicles were not involved, though there were pigmentation on the glans penis and a caseating node in the tibia and inguinal glands. Aitken recorded in his "Science and Practice of Medicine" (seventh edition) how there used to be in the Army Medical Department at Netley two preparations showing gummata of the heart—one from a soldier, 24 years of age, who had been under treatment for nine months for venereal ulcers; in the above case some of the ulcers had healed only three weeks before the patient's death. Gummata are usually found in the septum between the ventricles.

Salisbury.

A CASE OF ACUTE ASCENDING PARALYSIS WITH RECOVERY.

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THE patient in the following case was a well-nourished muscular man, aged 24 years, who was admitted into St. Mary's Hospital on Dec. 2nd, 1907, under the care of Dr. Sidney P. Phillips. He felt quite well up to Nov. 28th when he experienced a feeling of weakness in the calves of his legs. He started out to work the next day, but while on the way he had to return home owing to the increasing weakness. On the 30th he noticed blurring of vision on reading the newspaper. On Dec 1st the weakness of his legs was still more pronounced and he could not articulate distinctly. On the following day he could not stand without assistance and his arms were also weak. He had fallen off a ladder on to his feet a week previously to the onset of the symptoms but experienced no inconvenience at the time.

On admission he was unable to walk but could just stand with assistance. There was also considerable weakness in the muscles of his arms, especially in the extensors. The muscles were flaccid but not wasted and there was an absence of all reflexes, including the palatal reflex. The respiratory, abdominal, and intercostal movements were normal. There was slight right-sided facial weakness. The external muscles of the eye were normal. The right pupil reacted sluggishly to light and to accommodation and was somewhat larger than the left. The fundi were normal. Speech was a little indistinct, apparently due to difficulty in the movements of the tongue, and there was slight difficulty in swallowing. There was no alteration in the sensory functions except that he appeared to have lost sensation of the palate. His mouth was dirty with sordes on the lips. Cultures were obtained from the mouth and throat, but nothing resembling a diphtheritic organism was found. A lumbar puncture was performed soon after admission and 15 cubic centimetres of clear fluid with a few whitish floating particles were obtained. In this an organism having the appearance of a streptococcus was found but no growth could be obtained on culture media. The patient was given five minims of liquor strychninæ hydrochloratis every four hours and at a later period hot-air baths were administered. The muscular weakness quickly increased and on Dec. 7th there was evidence that the diaphragm was commencing to be paralysed and chest expansion was reduced to a minimum. Rhonchi appeared in both lungs with marked cyanosis and difficulty in swallowing. There was now complete paralysis of the legs, he could barely move his arms, and there was incontinence of urine and fæces. The outlook now seemed hopeless. The pulse-rate increased, reaching 100, and the cardiac apex passed from a point half an inch internal to the nipple to a quarter of an inch external to it. The strychnine had been stopped on Dec. 4th but it resulted in the condition becoming so much worse that on the 8th it was resumed in doses of seven minims, quickly increased to 10 minims, every four hours, and oxygen was also administered. On the 8th there were signs of improvement, the chest movements increasing and the difficulty in swallowing lessening. From the 8th to the 15th his condition remained stationary, except that some muscular wasting became evident. There were now also some slight, rather indefinite alterations in sensation over his legs, especially the right one, and he complained at times of severe pain in his knees. Sensation for heat and cold was normal. These only lasted a few days and were apparently the only sensory disturbances present during the course of the illness, except the anæsthesia of the palate mentioned above. On the 15th the diaphragm descended during quiet respiration, and from this time onwards he steadily improved. There was never any pyrexia. On Jan. 24th he could walk without assistance, had perfect control over the sphincters, and felt very well. There was no residual paralysis, but muscular wasting of the limbs was still marked and knee-jerks were still absent. The electrical reactions taken during the course of the illness showed no reaction of degeneration, but there were reduced response to faradism and no response to galvanism. Later there was reaction to both, but less than in a normal person. During his recovery galvanism and later faradism were applied daily.

The interest of this case consisted in the recovery from what appeared to be a severe example of Landry's paralysis and which when the diaphragm showed signs of paralysis threatened to be speedily fatal. The diagnosis lay between (1) diphtheritic paralysis, (2) Landry's paralysis, and (3) a toxic paralysis affecting the anterior cornua or nerves. There was, however, no evidence or history either of diphtheria or of any exposure to such toxic influences as syphilis, gonorrhœa, lead, or alcohol, and on the whole the case seemed to correspond better with Landry's acute ascending paralysis than with any other disease. Against this diagnosis there may be urged (1) the anæsthesia of the palate and the slight sensory disturbance of the legs, and (2) the fact that the parts affected were not altogether anatomically in succession from below upwards, but in Landry's own description of the condition diminution in cutaneous sensibility over the distal parts of the limbs is mentioned and the arms and face were affected before the legs were completely paralysed. In the present case strychnine appeared to have a very beneficial effect. I am indebted to Dr. Phillips for permission to publish these notes.

ROYAL INSTITUTION.—At a general monthly meeting of the members of the Royal Institution held on Monday afternoon last it was announced that the managers had appointed Dr. Kenneth Robert Hay as medical officer to the Royal Institution in succession to the late Mr. Woodhouse Braine who had held the appointment for 36 years.

A CASE OF ENUCLEATION, DURING THE SEVENTH MONTH OF PREGNANCY, OF A UTERINE FIBRO-MYOMA WEIGHING 17½ POUNDS; PREMATURE LABOUR TWO DAYS LATER.[1]

BY HERBERT WILLIAMSON, M.A., M.B. CANTAB., M.R.C.P. LOND.,

ASSISTANT PHYSICIAN ACCOUCHEUR TO ST. BARTHOLOMEW'S HOSPITAL; PHYSICIAN TO OUT-PATIENTS, QUEEN CHARLOTTE'S LYING-IN HOSPITAL.

ON Dec. 15th, 1906, I was asked by Dr. T. H. Fowler of Epping to see a woman in whom pregnancy was complicated by the presence of an abdominal tumour. The patient was 32 years of age and had been married for 15 months. Menstruation commenced at 14 years of age. The periods had always been regular every 28 days, had lasted six days, and the amount lost had never been excessive. The date of the last period was June 15th to 21st, 1906. Shortly after this the patient became pregnant and from that time no vaginal hæmorrhage occurred. Previous to conception she was in her usual health, had not noticed any enlargement of the abdomen, and had not found it necessary to loosen her clothes. Towards the end of September, 1906, in the fourth month of her pregnancy, whilst engaged in her household duties, she was seized with acute abdominal pain. The pain did not cause vomiting but was so severe that she was unable to stand upright. She went to bed and remained there for two days, the pain gradually subsiding. A few days later in the early part of October the pain was so much less that she undertook a short railway journey and whilst in the train was seized with another attack similar to the last, though more severe. She was unable to sit or lie down but had to finish the journey standing up clinging to the carriage door. On reaching her destination she was put to bed and remained there for six days but gradually recovered and at the end of another week was able to return home. To use her own words, "the journey home seemed to bring back the pain." For a fortnight she was confined to her bed and from that time until I saw her some five weeks later was unable to leave her room. There was rapid loss of flesh and the abdomen became distended to such a degree that it was impossible for her to lie down. Fœtal movements were felt in November and from that time onwards. On Dec. 15th I made the following note: "The patient looks ill and is anæmic; she is very thin, almost emaciated. The tongue is furred. Temperature 99·5°. Pulse 100, of poor volume. When lying down there is grave difficulty in respiration. The breasts are active and contain secretion. The abdomen is enormously distended, the skin over it tense and shining, a number of large dilated veins are seen on the surface. On palpation the abdomen is tender all over. Two tumours can be detected. The larger lies to the right; it is hard, feels solid, and nodular on the surface; it extends upwards for a considerable distance beneath the costal margin and has displaced the diaphragm causing respiratory embarrassment. It reaches well beyond the middle line and descends into the pelvis. The second tumour lies to the left and below; its limits cannot be accurately determined, for it is overlapped by the one just described; it lies over the left iliac fossa and bulges the abdominal wall outwards in the left flank. Its consistence is soft and elastic, like that of the pregnant uterus; fœtal parts cannot be distinguished nor can the fœtal heart be heard. The uterine souffle is clearly audible. Per vaginam the cervix is soft and lies high up to the left; the finger can be introduced through the os internum, the bag of membranes can be felt, and in this a child's foot which moved on touch. Bimanually, the tumour to the right rests upon the pelvic brim, whilst the lower pole projects into and occupies the right half of the pelvic cavity. The tumour to the left is identified as the pregnant uterus."

As to the nature of the mass to the right I was in grave doubt but thought it was probably a rapidly growing malignant tumour of the ovary. The reasons which led me to form this opinion were briefly these: (1) the rapidity of growth was in favour of a tumour of the ovary rather than of the uterus, yet the tumour felt too hard and inelastic for an ovarian cyst; (2) I could not satisfy myself that the tumour was definitely connected with the uterus; and (3) the cachectic appearance of the patient, the rapid loss of flesh, and the evidences of a toxæmia were in favour of a malignant growth. In spite of this view I urged strongly that an exploratory operation should be undertaken because it was clear that the patient would soon die from respiratory trouble if nothing were done and also that delivery of the child *per vias naturales* was an impossibility. The patient and her friends consented to my proposals and she was brought up to town on an ambulance.

On Dec. 19th I opened the abdomen by an incision in the middle line. The incision was subsequently enlarged so that it extended from two inches above the pubes nearly to the ensiform cartilage. When the abdomen was opened two tumours presented; the pregnant uterus deep red in colour lying below and to the left and a large nodular growth lying to the right extending upwards beneath the costal margin and downwards into the brim of the pelvis. The tumour was adherent to the parietal peritoneum, to the bowel and omentum, but the adhesions were easily separated. I found that the growth was a fibro-myoma attached to the right side of the anterior aspect of the uterus by a pedicle rather thicker than a man's wrist. After separating the adherent viscera it was brought out of the abdomen without difficulty and enucleated from the uterine wall. I do not think I opened the uterine cavity during this procedure but the mucosa was exposed. Free hæmorrhage occurred from the cavity left in the wall of the uterus after enucleation. So free was the bleeding that I feared it would be necessary to complete the operation by performing Cæsarean section and possibly hysterectomy. Eventually, however, by underpinning the whole of the raw surface and closing it in by means of cat-gut sutures the hæmorrhage was arrested. The abdominal wound was closed by through-and-through sutures with a separate layer for the fascia. For 48 hours the progress was entirely satisfactory, but on the morning of Dec. 21st labour pains commenced and after a short and easy labour the patient was delivered of a six months child which lived only 18 hours. There was no post-partum hæmorrhage but with the expression of the placenta two masses of dark blood-clot, each of the size of a hen's egg, were expelled. These clots were evidently two or three days old, and I have very little doubt that during the manipulation of the uterus I partially detached the placenta. To this accident is to be attributed the onset of labour. From this point convalescence was uninterrupted and the patient returned home a month after the operation. I noticed a number of fibroids in the wall of the uterus, one of the size of a Tangerine orange and two or three others nearly as large as this. When the patient came to see me six months later the uterus had involuted well and the whole mass, uterus and fibroids, was no larger than a man's fist. There can be no doubt that in this case the individual fibroids were much smaller six months after delivery than at the time of labour.

I show to-night a portion of the tumour removed. Its weight was 17½ pounds, its length 12½ inches, its breadth 9 inches, and its circumference 25 inches. On section it is seen that the tumour is degenerate, more especially towards its centre. Areas of mucinoid degeneration, cyst-like cavities, and patches of necrobiotic tissue are scattered through it. Microscopical sections show the histological appearances commonly seen in a degenerating fibro-myoma. These call for no special description.

I have related this case because of its clinical interest and because it is important to record instances in which premature expulsion of the ovum follows operations upon the uterus during pregnancy. So many cases have been published of pregnancy continuing in spite of the enucleation of uterine fibroids that a false idea of the safety of the ovum may become prevalent unless our failures are recorded also. I do not mean to imply that abortion is the rule, but it occurs with sufficient frequency to make me hold that a fibroid should not be enucleated during pregnancy unless it causes, or clearly threatens to cause, urgent symptoms.

The rate of growth in this case is remarkable. I have no doubt that the tumour existed before the commencement of pregnancy, but it had been noticed neither by the patient nor her friends. Its increase in size must be attributed to two factors: (1) the richer blood-supply of the uterus associated with gestation; and (2) the degenerative changes in the tumour partly mucinoid and partly necrobiotic. It is

[1] A paper read at a meeting of the Obstetrical and Gynæcological Section of the Royal Society of Medicine on Jan. 9th, 1908.

clearly established that fibroids are particularly liable to undergo degenerative changes during pregnancy; why this is so we do not know. Necrobiosis is generally regarded as the result of vascular lesions, but as to what is the nature of these lesions, or what are the factors which determine their onset we possess no certain knowledge. The process is, as far as we know, neither infective nor thrombotic, and it is difficult to explain why it should occur at a time when the vascular supply of the uterus is richest.

The onset of the symptoms was strikingly sudden. At the time of operation I looked carefully for torsion of either the tumour or the uterus, but I could find none. There was extensive local peritonitis and this may account for the severity of the pain in this case, but a necrobiotic fibroid is often *per se* a painful tumour, and in some instances where the pain has been great no adhesions or other evidences of peritonitis have been found. The constitutional symptoms, the raised temperature, the frequent pulse, the furred tongue, and the loss of flesh are evidences of the profound toxæmia associated with the change. Finally, I would draw attention to the fact that during the involution of the uterus the fibroids in its walls became smaller.

Wimpole-street, W.

ERRATUM.—In the last sentence of an article by Dr. A. Eddowes and Dr. J. G. Hare published in THE LANCET last week (p. 282) an error has occurred. It was Dr. M. K. Hargreaves who was speaking and not Dr. Eddowes or Dr. Hare, and the sentence should run: "In a second case Dr. Hargreaves is indebted to Dr. Alan B. Slater for carrying out the treatment at the patient's own home."

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ACUTE PULMONARY ŒDEMA.

BY J. M. PEARSON, M.D.

IT is somewhat curious that the English-speaking medical profession should have had to wait until the early years of the twentieth century for a clear recognition of such a well-defined dramatic affection as acute pulmonary œdema. A very typical case occurred in my practice in the years 1901–02 and, like Dr. Leonard L. B. Williams, I searched, but searched in vain, through a somewhat limited field, it is true, for any adequate mention of such a condition.

The patient was a woman about 50 years of age, stout, ruddy, and energetic. The most diligent search between attacks, for she had several, failed to reveal anything grossly wrong with either heart or kidneys. The subject of arterial tension had not then risen on my medical horizon. The attacks took place invariably at night—two in a month at one time and then four or five months' freedom. She would retire to bed early in apparently the best of health, to be awakened soon after midnight with shortness of breath. By the time I arrived on the scene she would be sitting up in bed quite unable to speak, with her face livid, beads of perspiration on her forehead, her chest heaving for breath, and a pint or more of frothy, slightly blood-tinged sputum in the basin held in front of her. The family got into the way of applying hot things to her chest and back, and on general principles I used to give strychnine hypodermically. The pulse was small and rapid. In an hour or less the severity of the attack would be over and she would be put back to bed, well propped up with pillows. Next day all would be well and two or three days would see her at her usual occupation, minding a small shop. From first to last the condition went on for 12 months, and I have records of five attacks during that time. Finally the end came, the old lividity was there but the weakened or tired respiratory muscles failed to respond with their accustomed vigour, and after a few sighing breaths she died two or three minutes after I reached her bedside. There was no necropsy and I left the case as mystified at the end as at the beginning. I noted that the serous fluid appeared to be poured into the lungs practically all at once, and that when it was cleared away there was no continued secretion. I also learned that the patient ought to be kept in an upright posture, which is the attitude the patients naturally tend to assume.

Blood-letting might suggest itself but reflection shows that all the mischief is done before the medical man arrives. The bleeding has already been accomplished and certainly the pulse has none of the attributes usually associated with the necessity for the operation.

Vancouver, British Columbia.

THE FREE USE OF AMYL NITRITE IN PULMONARY HÆMORRHAGE.

BY ALEXANDER LUNDIE, M.B., CH.B. EDIN.

IT fell to me three years ago to treat an extremely profuse pulmonary hæmorrhage, and after very much misgiving about taking it in hand at all I determined to use amyl nitrite. The results were such as I never regretted, but I was personally rather sceptical about the rôle of amyl nitrite in their production until I saw articles on the subject in THE LANCET in 1906. My reason for using this agent may therefore be of interest to others. I knew at that time of the lung reflex of Abrams but thought it had no bearing on the subject. I thought, like an ancient Greek historian, that it was entirely a matter of hydrostatics that had to be dealt with. Recollecting the story of a Greek, probably one of the "ten thousand," wounded in battle and bleeding profusely till he fainted and remained long unconscious, his wound becoming staunched meanwhile, so that he eventually recovered, I determined to imitate this condition, seeing my case was just as desperate. I hoped to lower the blood pressure and bring about a condition temporarily like surgical shock, trusting to clotting taking place meanwhile in the wound. I accordingly administered amyl nitrite on a towel like chloroform without regard to official dosage, guiding myself entirely by the pulse and the general condition. It quickly produced slight transient anæsthesia, with an insignificant preliminary stage of excitement. The pressure in the radial artery was very much lowered, the pulse being almost imperceptible, and I stopped at this stage as the respirations became very shallow. The results were good and a satisfactory recovery followed.

Dalmuir, Dumbartonshire.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

MEDICAL SECTION.

The Kinematograph in Medicine.—Pathology and Treatment of Chronic Constipation.

A MEETING of this section was held on Jan. 28th, Dr. S. J. GEE, the President, being in the chair.

Dr. H. CAMPBELL THOMSON gave a demonstration of the Use of the Kinematograph in Medicine. He showed films demonstrating certain gaits in nervous complaints. These will be found described and illustrated in the first number of THE LANCET of this year.[1]

Dr. A. F. HERTZ read a paper on the Pathology and Treatment of Chronic Constipation. He said that the treatment of chronic constipation was experimental. One method was tried and then another until by chance the method suitable to the individual case was discerned. That unsatisfactory state of affairs was due mainly to the fact that it had hitherto been impossible to determine the actual part of the intestines in which the delay causing the constipation occurred. In the case of medicinal treatment the difficulty was made greater by the lack of trustworthy information as to the relative effects exerted by any given purgative on different parts of the alimentary canal. Hence there were no rational guides to indicate what drug, if any, should be employed in a case. It seemed probable that enemata would prove of value in those cases in which the delay occurred somewhere between the splenic flexure and the anus. For that reason it might perhaps be assumed that

[1] THE LANCET, Jan. 4th, 1908, p. 12.

constipation relieved by enemata was due to sluggish action of the lower part of the colon. But enemata were not often employed without the simultaneous administration of purgatives, so that it had not been possible to separate clinical groups of cases in which enemata and not aperients were indicated. He had attempted by the aid of the x rays to discover what part of the intestines was to blame in different cases of constipation and thus to obtain a rational basis for treatment. It was only in the severer forms of chronic constipation such as those in which the question of operative interference might arise that the somewhat prolonged investigations required could be profitably carried out in practice. But he hoped that the examination of a large number of cases of constipation of every variety and degree might lead to the discovery of some simple clinical signs which would show what part of the intestines was at fault. It might also be possible to discover by similar means the exact effect of the various drugs and other measures employed in the treatment of constipation so that each case might be provided with a suitable treatment. The method employed consisted in the administration of breakfast of one and a half ounces to two ounces of bismuth carbonate mixed with bread-and-milk and then subsequently periodically examining the patients with the aid of the x rays. This large dose of bismuth had never produced any unpleasant symptom and on no single occasion in healthy individuals was constipation or any other disturbance of the normal activity of the alimentary canal produced. The time relations obtained by means of the x rays could therefore be looked upon as normal. The average normal time for the food to reach the cæcum was four and a half hours. Two hours more were required for it to reach the hepatic flexure and another two and a half hours for it to reach the splenic flexure. The rate of passage through the descending colon was somewhat slower and the activity of all parts was lessened during sleep. In a severe case of constipation described by Dr. Hertz the method showed that the passage of the intestinal contents through the colon as well as through the small intestine was unduly rapid rather than unduly slow. By means of the investigation with bismuth he found that the seat of the constipation in this case was the sigmoid flexure and the rectum. The rectum was considerably distended and fæces were present in the anal canal but the patient experienced no definite desire to defæcate. That meant that the rectum and anal canal must have become so far anæsthetic that the normal defæcative reflex no longer occurred. That together with the atonic condition of the sigmoid flexure and rectum caused the constipation. In this case by the use of daily enemata the constipation was "done away with" and the toxic symptoms and the pain were relieved. After this treatment an investigation made with bismuth carbonate showed that the sigmoid was no longer distended and that the bismuth passed at the normal rate through the intestines. Dr. Hertz then proceeded to relate the circumstances of a second case of severe constipation of 33 years' duration in a woman, aged 44 years. In this case as in the former one, bismuth carbonate passed through the small intestine at the normal rate and the distance reached in the first 28 hours also was not abnormal, but from the last part of the transverse colon onwards there was considerable delay. The constipation was probably due to anæsthesia of the rectum and anal canal and atony of the muscular wall of the pelvic colon and rectum. Dr. Hertz did not consider that the case would have been suitable for the operation of colectomy. In this case by the use of daily enemata the pelvic colon and rectum were prevented from becoming distended. The abdominal pain due to the fæcal mass disappeared with the enema treatment and the patient felt in every way better. It this case it was found that the patient did much better when the enema was given at night just before going to bed. In a case of tabes dorsalis and one of lead poisoning Dr. Hertz described the effect of drug treatment and observed in regard to a case of constipation in chlorosis that the cause was due to the sluggish action of the part of the large bowel beyond the middle of the transverse colon and if the case proved to be typical of the constipation of chlorosis it explained why ordinary aperients were able to relieve the constipation as the sluggish action occurred in a part of the intestines which was readily influenced by drugs. In the case of a patient suffering from constipation with neurasthenia the bismuth carbonate method showed that the constipation was due to sluggish action of the colon beyond the hepatic flexure, the last part of the transverse colon being most at fault. By treatment with liquor strychninæ and magnesium sulphate the condition was relieved and the bowels became regular.—Dr. H. MORLEY FLETCHER asked what was the position of the patient when the x ray photograph was taken.—Dr. C. E BEEVOR said Dr. Hertz had given interesting details concerning constipation in cases where there were definite causes for the condition. What was the explanation of constipation coming on in a man between 50 and 60 years of age who found himself compelled to use purgatives or enemata?—Dr. F. DE HAVILLAND HALL laid stress on the importance of giving enemata at night time.—Dr. HERTZ, in replying, said that the position of the patient when x ray photographed was lying down, but there was now at Guy's Hospital an apparatus by means of which the x ray investigation could be carried out with the patient in the upright posture. In regard to the question asked by Dr. Beevor, Dr. Hertz said that he had not examined such a patient, but he considered the constipation was similar to that seen in cases of the neurasthenic type.

DERMATOLOGICAL SECTION.

Exhibition of Cases.

A MEETING of this section was held on Jan. 16th, Dr. H. RADCLIFFE CROCKER, the President, being in the chair.

Dr. E. G. GRAHAM LITTLE showed a young girl with Granulomatous Swellings on the hand, wrists, ankle, and neck, which seemed to be of the same type as the cases of disease grouped under the title of "granuloma annulare." A specimen of a section of the skin was shown and its appearance was like that described in some cases of the disease to which this name had been applied. Several members suggested that the skin lesions were like those of acnitis, and it was decided to try the effect of a Calmette ophthalmo-tuberculin reaction.

Dr. J. M. H. MACLEOD showed a case of Annular Lichen Planus in a man in whom the lesions were confined to the penis and the forearm. The annular lesions could be traced as being formed by the peripheral extension and central involution of papules.

Dr. J. A. ORMEROD showed a case of very extensively distributed Pityriasis Rubra Pilaris in a man, aged 30 years. In spite of the wide area of surface covered the scalp was little affected.

The PRESIDENT and Mr. GEORGE PERNET showed a Case for Diagnosis—a man with a number of Circumscribed Patches of Redness and Scaliness, the skin being free both from infiltration and atrophy. This case had been seen by a dermatologist in Chicago and had been published as an example of parakeratosis variegata. Diagnoses of mycosis fungoides and of leprosy had also been offered. The exhibitors thought the case corresponded more nearly with the type of xantho-erythrodermia perstans.

The PRESIDENT and Mr. PERNET also showed a case of Lichen Planus Verrucosus treated with the violet rays of a mercurial vapour vacuum tube. The patient had benefited greatly by this treatment.

Dr. J. H. SEQUEIRA showed a case of Tuberculides in a girl, aged 19 years, in whom the lesions had been noted for several years. These were of the type of acnitis. The opsonic index had been found to be 1·1. Calmette's ophthalmo-tuberculin reaction had been demonstrated in this case, but there was no other evidence of tuberculosis in the patient and there was no family history of the disease.

Dr. J. H STOWERS showed a case of a small Rodent Ulcer on the Bald Scalp of a man, aged 53 years. This was of the size of a threepenny-piece and had lasted for 12 months.

OPHTHALMOLOGICAL SOCIETY.

Microphthalmia resembling Glioma.—Optic Neuritis in Cerebral Tumours.—Carcinoma of Orbit.—Coloboma of Iris in Each Eye.—Exhibition of Specimens.

A MEETING of this society was held on Jan. 30th, Mr. R. MARCUS GUNN, the President, being in the chair.

Mr. M. S. MAYOU described a case of Microphthalmia resembling Glioma, with lenticonus and hypertrophy of the ciliary body. He said that the case belonged to the class of phthisis bulbi. Some of those cases had been of inflammatory origin, but this, and possibly some of the other cases, were attributable to the imperfect development of the mesoblast

at its entrance to the ocular cleft to form the vitreous. The child was six months old and was admitted to hospital under Mr. W. I. Hancock. The mother had noticed that the left eye was very small from birth but the child had no other deformities. There were no signs or history pointing to congenital syphilis. The right eye was normal in size and there was nothing abnormal in the fundus. In the other eye there was a well-marked pupillary membrane. Behind the lens, which was clear, was a yellowish-white reflex with vessels on it similar to that seen in glioma and pseudo-glioma. As diagnosis was doubtful enucleation was performed and the child made a good recovery. The eye was hardened in formol and sections were cut antero-posteriorly. The optic nerve was removed and cut in transverse section. The globe measured 15 millimetres antero-posteriorly, 10 vertically, and 10 horizontally. The sclera showed no change. The angles of the anterior chamber were imperfectly formed owing to incomplete separation of the iris from the back of the cornea. The ciliary body was free from signs of inflammation. Behind, and lying on the pars plana, was a large mass of pigmented and unpigmented cells derived from the ciliary body. Towards the outer part was an attempt at alveolar formation. The retina was detached but did not stop at the ora serrata but passed close behind the ciliary process, where it was continuous with the anterior layers of the epithelial cells and the mass mentioned. The lens was thickened and thrown into folds and consisted principally of neuroglial tissue but possessed no regular structure. The retinal detachment was of earlier date than the hæmorrhage separating it from the choroid. The choroid presented a coloboma below but the blood-vessels were not thickened. The lens showed a condition of posterior lenticonus. The central artery was well developed and showed no changes in its walls. Generally in such cases the distortion of the posterior part of the lens was associated with a persistent hyaloid artery or a gap in the posterior part of the lens capsule, but neither of those conditions was present in this case. There was hypertrophy of pigmented and non-pigmented epithelial cells, the reason of which it was difficult to understand, unless it was due to nutritional disturbance in the line of separation of the two layers in the primary optic vesicle.

Mr. L. J. PATON read a paper on Optic Neuritis in Cerebral Tumours. The paper was based on the records of 252 consecutive cases seen at the National Hospital, Queen-square. In 202 of those the localisation of the intracranial tumour was definite, and 148 were confirmed by operation or post mortem. Of the 202 cases, 38 (or 18·8 per cent.) had no neuritis; 12 had only very slight neuritis, the edges being at no period completely blurred; 27 were in a condition of post-neuritic atrophy when first seen; and the remaining 125 had marked neuritis. Mr. Paton pointed out that the great majority of cases without neuritis occurred in subcortical and pontine tumours. The percentage of cases with no neuritis in tumours of those two areas was respectively 38 and 43·5. He pointed out, further, that when subcortical tumours developed optic neuritis it almost invariably indicated that the growth had involved either the grey matter of the cortex or the grey matter of the base, and that when pontine tumours developed optic neuritis it practically, without exception, indicated very definite involvement of the cerebellum. He showed that in tumours of the cerebral cortex the intensity of the neuritis seemed to vary inversely with the distance of the tumour from the anterior pole of the middle fossa. He adduced evidence to show that the nature of the growth had little, if any, influence on the development of optic neuritis, except in so far as the nature of the growth might influence its position. He stated that the figures showed that very little reliance could be placed on differences in the intensity of the neuritis as indicating on which side the tumour developed and that in the cases of frontal and of cerebellar tumour neuritis was just as frequently most marked in the optic disc of the opposite eye as it was in the eye on the side of the tumour. The neuritis commenced more frequently in the eye on the side of the tumour than in the opposite eye, but even here the preponderance—23 to 13—was not sufficiently marked to make the sign one of much value for localising purposes. He described in detail the development of the macular changes seen in intense cases of tumour neuritis, and showed that these changes were most probably produced by an overflow of œdematous fluid from the much swollen disc into the nerve-fibre layer, and that the presence of very well-marked macular fans was compatible with the retention of perfectly good vision. The causation of temporary attacks of blindness, lasting from a few seconds to half an hour, was discussed and it was shown that these were probably not associated with optic neuritis, as they had been observed three times in cases where no optic neuritis developed, and in other cases these fleeting amblyopias had occurred before ophthalmoscopic evidences of disc change were present. It was suggested that these attacks were due to sudden rises in intraventricular tension, causing a bulging of the thin floor of the third ventricle, and to direct pressure on the chiasma. The attacks were invariably accompanied by increased headache and giddiness. He pointed out that there was no evidence in favour of optic neuritis in these cases being due to an inflammation descending from the basal meninges, nor was there evidence in favour of it being due to pressure of fluid in the vaginal space. The clinical evidence against it being a descending inflammation in the nerve trunks was even stronger, nor was there any more evidence in favour of the neuritis being produced locally by the action of toxin or of its being a vaso-motor phenomenon. He regarded their knowledge to be, as yet, insufficient to justify any definite theory as to the causation of optic neuritis, but a general review of the subject in its clinical aspects inclined him to the view that in so-called optic neuritis there was simply a manifestation locally of a general œdema of the cerebral tissues due to the irritation set up by the tumour as an actively growing foreign body.

The following two papers by Mr. SIMEON SNELL were, in his absence, taken as read: 1. Carcinoma of the Orbit originating in a Meibomian Gland. The case occurred in a woman, aged 63 years. In 1904 another surgeon had removed a lump from the right upper eyelid. In July, 1905, there had been a recurrence at the site of that scar reaching back to the orbit, of about the size of a walnut. This was removed with the portion of eyelid, but in June, 1906, there was another recurrence and then the eyeball was removed and the whole orbit cleared out and chloride of zinc paste was applied. Still further recurrence had occurred and the orbit was filled with a large ulcerated growth and the pre-auricular and cervical glands were enlarged. Dr. A. E. Barnes reported that it was a spheroidal-celled carcinoma and was of opinion that it had probably originated in a Meibomian gland. Mr. E. Treacher Collins corroborated this. 2 The second paper was on Coloboma of the Iris in each Eye, occurring in five generations. Mr. —— was the first person seen and he had a large coloboma in each eye, down and out. The defect was known to have existed in his grandmother, in her sister, and in his mother. Mr. —— had six children, three of whom were affected, and of these two had children—one had three children, of whom two were affected, and the other had one child who was affected. Mr. —— was the only child of his father, but his mother had, by a second husband, five children, of whom three were affected. One of these had three children, two of whom were affected. The other had one child who was not affected. In all, of 41 persons 12 were affected—five males and seven females. In the great-great grandchildren the defect was complete aniridia.

The following card specimens were shown:—

Mr. E. E. HENDERSON: Sections from case of Sarcoma developing under Calcareous Plate.

Mr. P. C. BARDSLEY: A New Form of Scotometer.

Mr. S. STEPHENSON: A case of Buphthalmia apparently Cured by the performance of Iridectomy.

Dr. L. G. GUTHRIE and Mr. MAYOU: Right Hemiplegia with Obstruction (? Thrombosis) of the Left Common Carotid and Central Artery of the Retina, with Perception of Light in the Eye.

Mr. G. H. GOLDSMITH: Optic Neuritis.

Mr. J. S. HORSFORD: Essential Shrinking of the Conjunctiva.

Mr. C. WRAY: Sympathetic Iridocyclitis.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 21st, Mr. H. Shackleton, the President, being in the chair.—Mr. J. Basil Hall showed: (1) A Fibroid, weighing 15 pounds, from a patient, aged 70 years; (2) two specimens of Intussusception removed by Enterectomy; (3) an Ectopic Gestation producing Torsion of the Fallopian Tube; (4) an Excised Gastric Ulcer which had produced hour-glass contraction;

(5) Colloid Carcinoma of the Colon from a case of Colectomy; and (6) Calculi from the Female Bladder.—Dr. Gilbert T. Beatton read notes on a case of Neurasthenia.—Dr. J. Metcalfe read notes on a case of Ureteric Calculus, with skiagram.—Mr. W. H. Horrocks read a paper on the Classification of Appendix Abscesses. He said that so much had been written about appendicitis that it seemed almost futile to attempt to say anything fresh about this condition. The anatomy and pathology had been fully discussed, and after the numberless cases which had come under observation the time seemed to have arrived when some classification of the different forms of appendix abscess might with advantage be attempted. In carrying out this idea the subject would be approached from its clinical rather than its pathological aspect. The first point to which he would call attention was the significance of the tender point lying in the line between the anterior superior spine and the umbilicus known as McBurney's point. This tenderness was generally present in appendicitis, but it was obvious that it did not indicate the position of the part of the appendix most affected. The appendix varied greatly in position. It might lie transversely across the iliac fossa, point downwards, towards the internal abdominal ring, or lie behind or outside the cæcum. Yet in all these cases there was tenderness over McBurney's point. This point really marked the attachment of the appendix to the cæcum, where the mesentery contained the lymphatic glands which became inflamed and tender. Hence this point gave no indication as to the position of the acute disease. Some years ago Sir F. Treves pointed out that a ridge might be felt crossing the appendix line in chronic appendicitis. This in some cases was mistaken for a thickened appendix as it was tender on palpation. Sir F. Treves pointed out that this ridge was probably the ileo-cæcal valve, and certainly not the appendix. On examining the blood supply of the appendix two arteries were usually found, one of which ran along the free margin of the mesentery and the other near the attachment of the appendix to the cæcum. Generally from one-fourth to one-third of an inch of the termination of the appendix was without mesentery. This part was most subject to perforation. In other cases a kink occurred from adhesions or stricture about midway in the appendix and perforation might occur less commonly in this position. For purposes of classification appendix abscess might be grouped into three divisions. In all three cases the appendix lay in a plane behind the intestines, attached to the posterior wall of the peritoneum or in some rare cases to the under surface of the intestinal mesentery. Group I.—In which the appendix lay transversely across the iliac fossa so that its tip approached the brim of the pelvis. This was, perhaps, the commonest form. The small intestines matted together by plastic lymph formed a large tumour. There were marked local peritonitis and swelling of the abdomen. The bladder was frequently affected, there being pain and frequency of micturition. The abscess formed in the iliac fossa near the brim of the pelvis and might remain there, or it might gravitate into the pelvis occupying a position between the bladder and the rectum. Such abscesses might point by coming forwards between the coils of intestine to the anterior abdominal wall, usually near the outer margin of the rectus muscle, about a hand's breadth above the pubes. This form of appendicitis was the most dangerous from its liability to cause general peritonitis or to burrow among the organs of the pelvis. In this form examination per rectum was most valuable. Group II.—Where the appendix lay in the iliac fossa as a direct continuation of the cæcum. The affected part of the appendix lay usually near the internal abdominal ring. This form was not generally characterised by a large abdominal tumour. The abscess was frequently of small size and could be quite readily felt above, and parallel to, Poupart's ligament. The tendency of this abscess was to follow the cord along the inguinal canal. It was the least dangerous form of appendix abscess. Very often this form of abscess discharged into the cæcum and so cured itself. Group III.—Where the appendix lay between the layers of the cæcal mesentery or on the outer side of the colon. This was the most obscure form of appendicitis. It was attended by no definite tumour. The pain and tenderness seemed to travel upwards. The risk of general peritonitis was very slight, but on the other hand there was a tendency for the formation of subdiaphragmatic abscess with secondary empyema of the right side. There was often œdema of the skin of the right loin. In dealing with such abscesses there was considerable difficulty and a deep dissection might be required.—A discussion followed the paper and Mr. Horrocks then replied.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Jan. 17th, Dr. J. Walker Downie, the President, being in the chair.—Dr. G. Burnside Buchanan reported a case of Extensive Injury to the Brain. The patient sustained a compound fracture of the skull from a block of wood falling on his head. There was a large irregular wound about the right parietal eminence. Some of the fragments were depressed under the edge of the fracture. A splinter of wood about one inch by a quarter of an inch thick was imbedded in the brain. There were much effusion around and considerable hæmorrhage from the wound. He was not entirely unconscious. The left side of the body and face was paralysed. Loose fragments of bone and the piece of wood were removed. Detached brain tissue and gritty particles were removed and the wound was packed with iodoform gauze. Anti-tetanic serum was given. The wound healed slowly without suppuration but a large quantity of necrotic brain matter escaped. He regained slight power over the leg. Sleeplessness and restlessness were very troublesome and could only be controlled by morphine. The leg and facial paralysis made marked improvement but the mental condition deteriorated.—Dr. A. N. McGregor described a Method of Recording the Efficiency of the Discharge of Urine per Urethram. He considered the estimation of the size of the urethra from casts, as done by Reybard, and the use of the urethrameter of Otis, Luis, &c., did not give the rate of discharge in a given case, which was the chief point of importance. His method was to get the patient to measure the urine passed during five seconds without voluntary exertion and in similar circumstances from day to day. These results recorded on a chart gave a permanent record of variations in the efficiency of urination. A number of charts were shown and demonstrated the more lasting effects after moderate dilatation as compared with extreme dilatation. Charts from normal cases were also shown.—Dr. W. S. Syme showed: 1. A boy, aged six years, operated on for Septic Sinus Thrombosis consequent on Middle-ear Disease. There was a small carious opening into the mastoid antrum on admission. The whole mastoid process was carious. At the operation this was cleared out and the lateral sinus was exposed. Its wall was covered with unhealthy granulations. Three days later symptoms of septic infection developed. The sinus was opened and a thrombus was found adherent to the inner surface. The internal jugular was tied. Progress was slow but progressive. 2. Patients operated on for Diseases of the Accessory Sinuses. Intranasal treatment should be given a good trial first. Extensive operations should be performed externally and the extent of operation depended on each individual case. The sphenoidal sinus could be opened externally (the Killian operation), by way of the maxillary antrum, by the naso-pharynx, or by the anterior nares. The last method was generally preferable. 3. A case where part of the Root of the first Upper Right Molar was removed from the Maxillary Antrum into which it had been driven six years before as the result of an unsuccessful attempt at extraction.

THE KING AND THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.—Excellent photogravures of the portrait of the King, which was painted by Sir Luke Fildes, R.A., by His Majesty's command, for the Royal College of Physicians of London, of which corporation His Majesty is an Honorary Fellow, can now be obtained from the Berlin Photographic Company, 133, New Bond-street, London, W. The portrait represents His Majesty, to use the words of the publishers of the photogravure, "not in the uniform of a soldier, nor as the head of the State, but in that garb to which his fine presence lends fresh dignity—namely, as the First Gentleman of the Realm." An advanced proof of the engraving was submitted to the King, when the publishers were fortunate in finding that they had secured His Majesty's approval. Artist's proofs on Japanese paper, signed by the artist, and limited to 300 impressions, are now to be purchased priced at 5 guineas. India prints will be published at a later date at the price of 1 guinea each, and members of the medical profession will receive special consideration from the publishers

Reviews and Notices of Books.

Arterial Hypertonus, Sclerosis, and Blood Pressure. By WILLIAM RUSSELL, M.D., F.R.C.P. Edin., Physician to, and Lecturer on Clinical Medicine in, the Royal Infirmary, Edinburgh, &c. With 36 illustrations and plates. Edinburgh and London: William Green and Sons. 1907. Pp. 194. Price 7s. 6d. net.

MUCH attention has been paid in recent years to the subject of disease of the blood-vessels but in spite of this, or perhaps because of the very number of writers setting forth divergent views and using technical terms with different shades of meaning, there is considerable confusion of ideas in this field. Dr. Russell in the book before us makes a praiseworthy attempt to straighten out the tangle. As the outcome of much careful clinical observation he has formed clear ideas of the conditions met with and he appreciates the need not only of clear thinking but of defining the terms in which they are set out.

The author first draws a distinction between two affections which are often confused—atheroma and arteriosclerosis. The former, he holds, is a localised affection produced by irritation combined with degeneration; the latter is a generalised change consisting in permanent thickening of the walls of the vessels which may involve the middle coat alone or the inner and outer coats along with it. Not every vessel, however, which feels thick and rigid to the examining finger is the seat of sclerosis. The arteries are muscular tubes and as such are capable of contraction and relaxation. A contracted artery may feel thick and rigid, just as a degenerate one does. This condition of spasmodic contraction is called by the author "hypertonus," an exaggeration of the normal tone of living vessels. It may be brought about by toxic substances circulating in the blood such as are present in renal disease and if it persist owing to continuance of the cause permanent sclerosis (hypermyotrophy) ensues. Constriction of any part of the arterial system is necessarily followed by increase of blood pressure and this sequence is recognised to occur in renal troubles. Some confusion of thought seems, however, to prevail as to the point at which the raised pressure exists. The author has devised (with the assistance of Dr. Cargill Knott) a model which reproduces some of the features of the circulation and shows that the rise in pressure occurs behind the obstruction, while a fall is met with beyond it. This might, indeed, have been anticipated. The apparatus does not show, and it is the point which most needs proof, whether there is a rise of pressure *within* an artery which is constricted throughout some considerable portion of its length.

Another point on which new light is shed in this volume is the value of hæmomanometer readings in disease as measures of actual blood pressure. It seems satisfactorily demonstrated, as might indeed have been anticipated, that the wall of a thickened artery offers considerable resistance to compression and that this factor has to be taken into consideration as well as the actual pressure of the blood in drawing conclusions from the readings of an instrument which works by obliterating the lumen of an artery. It is a question, however, how far this criticism applies to such an instrument as the Hill-Barnard sphygmometer, in which the principle is the equalisation of the pressures inside and outside the vessel as shown by the degree of oscillation of the column of fluid in the instrument.

In the stage of hypertonic contraction much may be done for the patient by the administration of drugs which relax arterial spasm; the author speaks highly of erythrol tetranitrate. Even sclerotic and degenerated arteries are capable of a considerable degree of spasm and relaxation and must not be looked upon as beyond treatment. Spasm is often brought on by exaggeration of the physiological reflex by which the peripheral vessels contract after a meal coincidently with a relaxation of the splanchnic system. Proteid decomposition products, alcohol, and tobacco are also causes of arterial constriction. In the light of the views just set forth the author discusses various cerebral conditions associated with spasm of arteries and also the condition known as angina pectoris. Incidentally he makes the suggestion that the secretion of the pituitary gland may have the special function of acting on the cerebral arteries. Into these discussions we cannot here follow him.

The views enunciated in this book offer a clear and a consistent account of the phenomena of vascular disease which should give pathologists and clinicians food for thought and discussion. The book may be commended to the attention of all who are interested in one of the most important problems in the theory and practice of medicine. We congratulate Dr. Russell on a valuable piece of work.

Manual of Surgery. By H. ALEXIS THOMSON, F.R.C.S. Edin., Assistant Surgeon, Edinburgh Royal Infirmary; Surgeon to the Deaconess Hospital, Edinburgh; and ALEXANDER MILES, F.R.C.S. Edin., Assistant Surgeon to the Edinburgh Royal Infirmary; Surgeon to the Leith Hospital. Second edition, revised and enlarged, with many illustrations, mostly wood engravings. Vol. I., General Surgery. Pp. 808. Vol. II., Regional Surgery. Pp. 816. London and Edinburgh: Young J. Pentland. 1906 and 1907. Price 21s. net.

THE student must have a good deal of difficulty in distinguishing between the many manuals of surgery which compete for his notice, but he cannot go far wrong in choosing this excellent text-book. It is always difficult to know how much to put into a book intended for students; on the one hand, the author has to avoid overburdening the student's mind with an excess of facts and particulars, and on the other it is essential that everything should be included that may be reasonably required at the examination. We do not know a more trustworthy work than this. We are inclined to think that it would be better to issue the work in one volume, the page being made larger, for there is certainly on the part of students a preference for a work in one volume. We hope the authors will resist strenuously any inclination to increase unduly the amount of material in the work; we notice that the present issue has 100 pages more than the first, and all books have a natural tendency to grow. We are glad to see that the book has reached a second edition in which it has been brought up to date. We notice a misprint "pruritis" for "pruritus": we mention it because in some works, especially in America, it appears to be regarded as the correct spelling.

LIBRARY TABLE.

Primary Nursing Technique for First-year Pupil Nurses. By ISABEL MCISAAC, formerly superintendent of the Illinois Training School for Nurses, Associate Director of the *American Journal of Nursing*, &c. New York: The Macmillan Company. 1907. Pp. 197. Price 3s. net.—It is a truism that the only way to learn the art of healing is by observation of the patient at the bedside and it is no less certain that the art of nursing can only be acquired in a practical manner. But text-books, intelligently used, may be of as much help to the nurse as to the student of medicine, and the book before us is one that the first-year probationer will find of very valuable assistance in her training. It is written clearly and concisely and is not

overloaded with descriptions of detail which can only be properly appreciated when they are seen actually performed. But a young nurse who has mastered the contents of such a book as this will be in a position to appreciate her practical instruction more intelligently and so to derive an added advantage from it. That the practical side of the nurse's training has been in the author's mind is apparent from the fact that she prefaces the book with an excellent scheme of demonstrations for adoption by those who are responsible for the practical instruction of probationers, which we commend to the notice of those matrons of the smaller hospitals who are engaged personally in lecturing to their junior staff. We need not discuss the matter of the book, as we have already indicated its range, and the teaching is laid down on the lines of accepted authority. There are one or two words which are strange to English ears. How many of our readers know what is meant by "gastric gavage" (*sic*) or an "alcohol sweat"? But we can forgive much in the case of an American writer who spells "technique" as it ought to be spelt.

The Spectroscope: An Intermediate Text-book for Practical Chemists. By T. THORNE BAKER, F.C S., F.R.P.S. London: Baillière, Tindall, and Cox. 1907. Pp. viii.–130, with three coloured and 63 plain illustrations. Price 5*s*.—The practical applications of the spectroscope are extremely numerous and it is indispensable in such medico-legal inquiries as involve the identification of blood stains. Our issue of Jan. 4th also contained a reference to its use in determining the nature of the light emitted by photogenic bacteria. The hæmoglobin of blood produces dark absorption bands in the spectrum and the test is usually accomplished by means of a direct-vision spectroscope adapted to a low power of the microscope. In the present volume there is no actual mention of blood but all the apparatus necessary for exhibiting the various spectra of hæmoglobin are so fully described that it deserves the attention of medical readers interested in this subject. The book is divided into nine chapters, of which the first deals mainly with optical principles and the second with the constructional details of various instruments in which equiangular prisms, diffraction gratings, combinations of prisms and gratings, and compound direct-vision prisms are respectively employed. Chapters III., IV., and V. describe the adjustments and practical use of the apparatus and the interpretation of continuous and bright-line spectra obtained from various sources, including phosphorescent bacteria. Chapters VI. and VII. give a satisfactory account of spectrum photography as applied to the determination of the wave-length of unknown lines, to simple methods of analysis in inorganic chemistry, and to the colour-sensitising of photographic plates. Chapters VIII. and IX. are devoted chiefly to the relations which the bands and lines of the spectrum bear to questions of chemistry, chemical physics, and chemical constitution. Students working with the spectroscope in chemical and physiological laboratories will find this a very serviceable book.

The Science Year Book, 1908. London: King, Sell, and Olding, Limited. Price 5*s*. net.—This work of reference and diary will be found useful by workers in all departments of science. In the diary a separate page is devoted to each day of the year and at the top of each page various astronomical facts are given and space is provided for recording the barometer, wind direction and pressure, rainfall, and so forth. The reference portion of the book contains a great deal of information dealing with astronomy, physics, chemistry, meteorology, and other departments of science, and gives facts and formulæ of every-day utility. Among the features of the work is a summary of the progress of science during the year 1907, a glossary of recently introduced scientific terms, names of periodicals, and a list of scientific societies. Brief biographical notes of prominent scientific men are also included. Some new tables have been added to the present issue, among them being a useful table of four place logarithms.

JOURNALS AND MAGAZINES.

The St. Mary's Hospital Gazette for January contains a very interesting paper by Dr. W. H. Willcox on the Medico-legal Importance of Wounds produced by Firearms in which he deals with certain points connected with the laws relating to such wounds, the causes of death resulting from them, and the types of wounds produced by revolver or pistol, rifle, and shot-gun wounds respectively. Illustrative cases are quoted, including the Whiteley, Moat Farm, and Chorley Wood murders. The paper is a useful contribution to medico-legal literature. Much of the remainder of the *Gazette* is devoted to an account of the Christmas doings at St. Mary's, which were wound up by two performances of *The Private Secretary* in the out-patient hall by the residents for the benefit of patients and nurses. The production seems to have been very successful. This number also includes a photographic supplement illustrating the Students' Cot, supported by St. Mary's students.

The Illuminating Engineer.—The first number of this new monthly journal contains an interesting article on Vacuum Tube Electric Lighting by Professor J. A. Fleming, F.R.S., of University College. One of the disadvantages of lighting by the ordinary incandescent filament is the extreme harshness of the shadows, the sharp contrasts being very trying to the eyes. If the shadows are softened by frosting the globes there is naturally great loss of efficiency. Another disadvantage is the great richness of the light in ultra-violet rays which are useless for illumination and are responsible for most of the damage done to the eyes by electric light. There is good reason to believe that both of these drawbacks may be to a very large extent removed by the new form of illumination. The method has been used for some time in America but has received little attention here. It may, however, be seen at work in the courtyard of the Savoy Hotel. It has long been known that light could be obtained by passing a high tension current through rarefied gas. The gas undergoes absorption with diminution of pressure. This practical difficulty has been overcome by the invention of an ingenious valve by Mr. Macfarlane Moore. By Moore's method a tube one and three-quarter inches in diameter and of any length up to 200 feet can be made incandescent. For ordinary purposes nitrogen is the best gas and it can be obtained easily from the air. The light has a rich golden hue, or with carbon dioxide whitish blue. From the hygienic point of view it is desirable that experiments should be made to determine the quality of the rays emitted in different circumstances. Professor Fleming, from experiments carried out at the Savoy Hotel, has shown that the illuminating power is 9·6 candle-power per foot. The intensity of light from such a linear source varies approximately inversely as the distance, not as the square of the distance as with ordinary methods. Hence the illumination three feet above the ground is equivalent to that of about 100 16 candle-power lamps equally distributed over the ceiling at the same height above the ground as the tube. The light intensity is directly proportional to the voltage and is therefore much more constant than with glow lamps. Both initial cost of installation and working expenses are less. With carbon dioxide in the tube tinted surfaces appear as in daylight, so that artistic work can be carried on as by day. The new journal contains articles on illumination and eyesight, with special reference to the eyesight of school children and the effectual lighting of schoolrooms, on the protection of the eyes from ultra-violet rays, and so on. They

afford important evidence that these hygienic matters are receiving greater and more intelligent attention from practical engineers.

Man.—In the January number of *Man* Dr. W. L. H. Duckworth describes a human cranium obtained from a stone cist in the Isle of Man. Its measurements in millimetres were as follows: Maximum length, 180; maximum breadth, 146; and horizontal circumference, 527. The cephalic index was 81·1. It was therefore brachycephalic and probably belonged to a young adult. A noteworthy feature was the persistance of a suture (comparable to a prolonged sagittal suture) between the two halves of the frontal bone.

The Phonographic Record.—With the January number our small contemporary begins its fourteenth annual volume. In his account of the Medical School of Montpellier in the thirteenth century Dr. O. C. Gruner presents many curious facts. At its prime the number of students was not less than 1000. They had the power of regulating the manner of teaching and even the subjects to be taught, and they could suspend altogether an unsatisfactory teacher. Perhaps an explanation of this is to be found in the fact that any unqualified person, as we should say, was at first able to be a teacher; not until 1272 was the possession of a diploma necessary. In an account of the Murmurs of Mitral Constriction Sir William Gowers mentions two phases or stages rarely observed. The first is at the beginning of the diastolic murmur, when a distinct interval intervenes between the end of this and the beginning of the presystolic murmur, because the narrowing of the orifice is only enough to cause the sound at the commencement of the diastolic flow. It is more often noted in an irregular heart, when the diastole is occasionally prolonged. The other stage is terminal; the presystolic murmur ceases and only the diastolic persists. He observed a case in which the cause of this was found to be the formation of a layer of clot over the whole inner surface of the auricle, making its contraction impossible. Dr. R. Hingston Fox contributes a sketch of "Hæmatogenous" Albuminuria, often called "functional," a subject on which it will be long before the last word is said.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

ALEXINE.

(J. CHATELAIN, 15, RUE DE PARIS, PUTEAUX. AGENTS: T. CHRISTY AND CO., OLD SWAN-LANE, LONDON, E.C.)

WE have submitted this preparation to analysis and the results confirm the statement that it contains free phosphoric acid with iron and manganese. The preparation occurs in granular form but is distinctly hygroscopic. It is by no means unpleasant to take and for the most part is soluble in water. The acid phosphates of manganese and iron are regarded as presenting both these metals in an assimilable form. The preparation appears to supply an effective tonic and has been used in nervous diseases, in dyspepsia, in anæmia, and in pulmonary tuberculosis.

IRISH WHISKY.

(DUNVILLE AND CO., LIMITED, BELFAST.)

Two specimens of Irish whisky were submitted to us, one distinguished by the letters V.R. and the other by the title of "Special Liqueur." Analysis readily discriminated the two, the former being a blend of pot-still and patent-still spirit and the latter a pure pot-still spirit. The V.R. whisky, for example, showed a relatively small proportion of secondary products, the ethers amounting to 26, the higher alcohols to 107, and the furfural to 0·3 parts per 100,000 parts of absolute alcohol present. On the other hand, the specimen marked "Special Liqueur" yielded on analysis 1 part of furfural, 65 parts of ethers, and 400 parts of higher alcohols in 100,000 parts of absolute alcohol present. It will be noticed that the amount of furfural is relatively low having regard to the fact that the spirit is distilled in a pot still. Doubtless this is due to careful selection of a particular "running" from the still. Since furfural is held to be a poisonous constituent of whisky this fact may be regarded as satisfactory from a dietetic point of view. Both spirits evidently belong to the class of whisky described as "thoroughly matured." Those who know the peculiar characteristics of genuine Irish whisky will appreciate the flavour in particular of the "Special Liqueur." The specimens were entirely free from acrid flavour and were peculiarly smooth to the palate. They were, moreover, free from excess of extractive matters and exhibited practically no acidity.

FORMAMINT.

(A. WULFING AND CO., 83, UPPER THAMES-STREET, LONDON, E.C.)

Formamint is described as a chemical combination of formaldehyde and milk sugar. Apparently it is a true compound of the two substances, the milk sugar neutralising the irritating effect of the formaldehyde. The result is that the compound may be formed into a lozenge for the treatment of infective throat conditions. When the tablet is dissolved in the mouth the taste of formaldehyde is distinctly observed, though it is not unpleasant. The act of dissolving in the saliva sets free the aldehyde. Under these conditions the bactericidal action of the aldehyde is powerful and immediate. Several clinical notes have been published recording the value of the Formamint lozenge in tonsillitis, diphtheria, thrush, and so forth. We had no difficulty in recognising the presence of formaldehyde, lactose, and some starch.

TABLOID QUININE COMPOUND.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

The formula of this compound will explain the purpose for which it has been designed. Each tabloid contains cinchona alkaloids, 1 grain; acetanilide, $\frac{1}{15}$th grain; camphor monobromate, $\frac{1}{3}$th grain; powdered ipecacuanha, $\frac{1}{4}$th grain; and extract of cascara sagrada, $1\frac{1}{4}$ grains. It is suggested that one tabloid may be taken every hour in the early stages of catarrh of the kind to which many persons are prone during a cold and changeable season.

VARIOUS FOOD PREPARATIONS.

(EUSTACE MILES, 40, 41, AND 42, CHANDOS-STREET, CHARING CROSS, LONDON, W.C.)

These foods in general show, according to analysis, a high nutritive value in regard to all classes of material which minister to the needs of the body. The "Proteid Food," for example, contained as much as 32 per cent. of proteins which are more or less in a soluble state, and the mineral salts amounted to 7·10 per cent. Its addition to other foods is, of course, calculated to raise their nutritive value. The food for infants contains a well-balanced proportion of proteins, fats, carbohydrates, and mineral matter. It is a particularly satisfactory fact that this food showed no deficiency in regard to fat, the amount being 21 per cent. The proteins amounted to 22·75 per cent. and the mineral matter to 4·50 per cent. We have also examined cocoa, biscuits, and soup tablets, which all evidenced a rich proportion of nourishing constituents.

"DRY SACK."

(WILLIAMS AND HUMBERT, 38, MINCING-LANE, LONDON, E.C.)

This is a very fine wine, representing the best that can be produced in the Jerez district. It is said to have been fully matured in wood, which we can well believe from the excellent flavour of the wine. The results of analysis accord with those commonly obtained with a fine old matured

sherry; they were as follows: alcohol, by volume, 20·24 per cent.; extractives, 5·30 per cent.; mineral matter, 0·49 per cent.; volatile acidity, reckoned as acetic acid, 0·084 per cent.; fixed acidity, reckoned as tartaric acid, 0·33 per cent.; and sugar, 4·06 per cent. The ethers amounted to as much as 0·68 gramme per litre. We have before referred to the fact that the amount of ethers in sherry exceeds that found in other wines. As a stimulant, therefore, sherry must be placed in the front rank. The wine belongs to the description of a Palo Cortado sherry which, although of the Oloroso type, is delicate in flavour. From the point of view of the connoisseur this sherry will be regarded as a really elegant wine, while its satisfactory characters in general commend it for medicinal use when a stimulant is ordered by the medical man.

ALKURIS TABLE WATER.

(ALKURIS, LIMITED, 37, SHEEN-ROAD, RICHMOND, S.W.)

We can well believe that this excellent table water is manufactured with care having regard to its purity as shown by our analysis. The water is clear and bright and pleasantly sparkling, while its taste is satisfactory, being very "clean" on the palate. The water is further slightly mineralised and contains the citrates of potassium and lithium and the bicarbonates of sodium and potassium, together with a small quantity of sodium chloride. According to our analysis the total salts present amounted to 1·39 grammes per litre. We found amongst these 0·28 gramme of lithium citrate, 0·40 gramme of alkaline carbonate, and 0·42 gramme of common salt per litre. The water shows an excellent condition of organic purity, as might be expected since it is carefully distilled. The water is obviously useful when a course of alkaline treatment is indicated. Its free administration is calculated to preserve an alkaline state of the blood, and alkaline table waters in general are often valuable in gastric catarrh and favour the excretion of waste toxic products.

V.V. (VIS VITÆ) BREAD.

(V.V. BREAD COMPANY, LIMITED, 16 TO 32, BREWERY-ROAD, LONDON, N.)

We are always glad to recognise any attempts to make bread a palatable and nutritious article. Nowadays palatability and nutritive value are too often sacrificed in favour of appearance; the loaf must be spotlessly white without regard at all to its dietetic properties. The V.V. loaf is both palatable and nutritious. It has not that tastelessness which characterises so much of the bread of the present day, while doubtless owing to the use of good flour and of a specially pure barm it keeps fresh for a much longer time than ordinary bread. The flour used is clearly of high quality, since our analysis of the bread shows a maximum proportion of proteins for wheat flour; the mineral matter, too, is present in equally satisfactory proportions. The flavour of bread is an important factor in dietetics and it is much to be deplored that the bulk of the bread offered to the public is practically tasteless. The flavour to which we refer is difficult to describe, as are all flavours, but everyone knows the peculiar attractive nutty flavour of the unsophisticated bread made in the country home. Such bread as a rule is neither colourless nor flavourless, nor should it be. We have examined several varieties of V.V. bread and have found them to be most satisfactory; they are palatable, and largely because they are palatable they are readily digestible, for a good appetising flavour invariably invokes good digestive power.

PETOL PREPARATIONS.

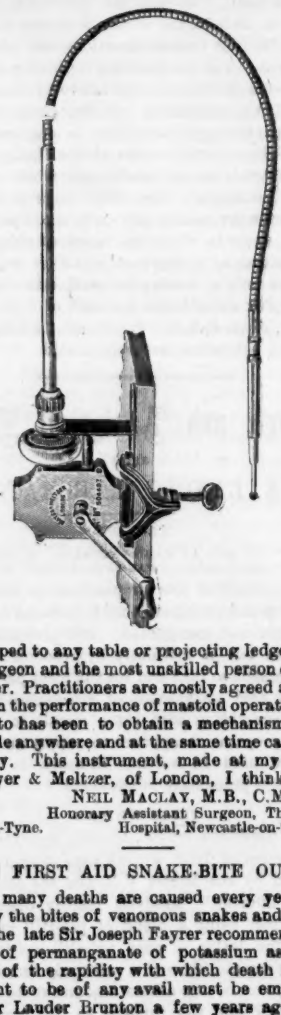
(P. S. SYNDICATE, ST. ANDREW'S WORKS, ST. ANDREW'S-STREET, BETHNAL GREEN, LONDON, E.)

Petol is an interesting oily substance obtained from peat. It does not appear to contain bodies of the phenol type but certain hydrocarbon oils which have a germicidal value. "Petol fluid" is a brown turbid mixture with a characteristic smell. It is alkaline to test paper and on adding hydrochloric acid to the fluid there is a separation of brown oils. Petol appears in a number of preparations intended for the purposes of antiseptic treatment. There are, for instance, petol soap, salve, disinfectant powder and fluid, and suppositories. While there is evidence of petol having marked germicidal power it is non-corrosive and non-poisonous. It has been used, it is said, internally in typhoid fever. It appears also, in the form of ointment, to be an excellent antiseptic and healing application for wounds.

New Inventions.

A PORTABLE SURGICAL ENGINE.

THE accompanying illustration represents a manual and portable surgical engine designed to perform the work of the ordinary surgical motor in a private house. The most attractive feature of this little machine is its portability—the handle, flexible spindle, and fixation clamp are all detachable and can, together with the body of the engine, be most easily accommodated in a hand-bag of the size of the ordinary midwifery bag. The construction is such that it



can be clamped to any table or projecting ledge conveniently near the surgeon and the most unskilled person can supply the motive power. Practitioners are mostly agreed as to the value of the burr in the performance of mastoid operations; the difficulty hitherto has been to obtain a mechanism which would be serviceable anywhere and at the same time capable of being carried easily. This instrument, made at my suggestion by Messrs. Mayer & Meltzer, of London, I think supplies the want.

NEIL MACLAY, M.B., C.M. Glasg.,
Honorary Assistant Surgeon, Throat and Ear Hospital, Newcastle-on-Tyne.
Wallsend-on-Tyne.

THE FIRST AID SNAKE-BITE OUTFIT.

A GREAT many deaths are caused every year in tropical countries by the bites of venomous snakes and more than 30 years ago the late Sir Joseph Fayrer recommended the local application of permanganate of potassium as an antidote. On account of the rapidity with which death follows a bite the treatment to be of any avail must be employed immediately. Sir Lauder Brunton a few years ago accordingly devised a form of lancet set in a wooden handle, one end of

which is hollowed out so as to contain a supply of the permanganate. On the infliction of a bite free incisions are made in the part with the lancet and crystals of the permanganate are rubbed into them. The accompanying illustration

shows at B an instrument of this kind, manufactured by Messrs. Ferris & Company, Limited, of Bristol, who have added some useful adjuncts, the whole of which are contained in a cardboard box of a size convenient for the pocket. B is a double-ended case of polished hardwood, having at one end a short spear-pointed lancet protected by a cover and at the other end a receptacle for the crystals. When closed it is three and a half inches long and half an inch in diameter; it may be carried alone if desired but the outfit as shown includes a small stock of dressing materials and an extra supply of crystals in a glass tube marked F. The price is 3*s.* 6*d.* The permanganate treatment of snake-bite has received official approval in Burma and in THE LANCET of Jan. 25th one of our India correspondents gave an abstract of recent regulations on the subject.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

A COMITIA was held on Jan. 30th, Sir R. DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced the following appointments: Dr. L. G. Guthrie to be the FitzPatrick lecturer for 1908, Dr. J. A. Ormerod to be the Harveian orator for 1908, Dr. W. Pasteur to be the Bradshaw lecturer for 1908, and Dr. R. T. Hewlett to be the Milroy lecturer for 1909.

The following gentlemen having passed the required examinations were admitted as Members of the College: Jehangir Cawasjee Balsara, L.R.C.P.; Hector Charles Cameron, M.A., M.B. Cantab., L.R.C.P.; Carey Franklin Coombs, M.D. Lond.; John Gallie Fraser, M.B. Edin.; Charles Edward Iredell, M.D. Lond., L.R.C.P.; John Owen, M.D. Lond.; Herbert Chavasse Squire, M.A., M.B. Oxon., L.R.C.P.; Henry Letheby Tidy, M.B. Oxon.; Godfrey de Bec Turtle, M.D. Durh., L.R.C.P.; Rupert Waterhouse, M.D. Lond., L.R.C.P.; and John William Watson, L.R.C.P.

Licences were granted to 68 gentlemen who had passed the required examinations.

Diplomas in Public Health were granted jointly with the Royal College of Surgeons of England to the following gentlemen: Robert Cecil Turle Evans, L.S.A.; Ernest Edward Scott Joseph Galbraith, L.R.C.P. & S. Edin., L.F.P. & S. Glasg.; William Henry Hillyer, L.R.C.P. Lond., M.R.C.S. Eng., M.D. Durh.; Wharran Henry Lamplough, L.R.C.P. Lond., M.R.C.S. Eng., M.D., B.S. Durh.; Arthur Rienssett Litteljohn, L.R.C.P. Lond., M.R.C.S. Eng.; James Mair, M.B., C.M. Glasg.; Fairlee Russell Ozzard (Major I.M.S.), L.R.C.P. Lond., M.R.C.S. Eng.; George Elliott Frank Stammers (Captain R.A.M.C.), L.R.C.P. Lond., M.R.C.S. Eng.; James Batson Stephens, L.R.C.P. Lond., M.R.C.S. Eng., M.B., B.S. Lond.; and John Tate, L.R.C.P. Lond., M.R.C.S. Eng.

The following communications were received:—1. From Mr. Charles Coates of Bath (to the President) presenting the College with the sum of £1000 to be used, invested, or disposed of as the President might deem most desirable. The thanks of the College were ordered to be given to Mr. Coates for his generous gift. 2. From the Secretary of the Royal College of Surgeons reporting proceedings of the Council on Jan. 16th, 1908. 3. From the council of the Geological Society conveying the thanks of the society to the College for its assistance in the recent celebration of the centenary of the society. 4. From the General Medical Council requesting recommendations from the College in reference to the new edition of the British Pharmacopœia. A committee was appointed to consider any alterations or additions which might be deemed advisable. The committee consisted of Dr. F. Taylor, Dr. J. Mitchell Bruce, Dr. N. I. C. Tirard, Dr. W. Hale White, Dr. H. A. Caley, and Dr. J. Calvert. 5. From Dr. Norman Moore, presenting a report on the November meeting of the General Medical Council. The report was received and adopted.

Dr. G. E. Herman, Dr. D. A. Finlay, Dr. N. I. C. Tirard, and Dr. W. P. Herringham were elected councillors.

Dr. T. D. Acland was elected an examiner in medicine in place of Dr. H. M. Murray, deceased.

Dr. F. H. Champneys was re-elected a representative of the College on the Central Midwives Board.

Sir W. S. CHURCH proposed, and Dr. G. A. HERON seconded, that a small standing committee should be elected the business of which would be to keep the College informed of the arrangements and methods of teaching elementary hygiene in training colleges and schools, of the working of Section 13 of the Education Act (medical inspection of the public elementary schools), of the position of the medical officers employed under it, and of any alterations which might be proposed by the Government or others in the education or inspection of children or in the administration of the Act. The motion was adopted. The nomination of the committee was postponed.

The quarterly report of the College finance committee was received and adopted.

After some further formal business the PRESIDENT dissolved the Comitia.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Feb. 6th, 1830.

MONSIEUR CHABERT.[1]

THIS person having advertised that he would REPEAT the WHOLE of his "extraordinary performances" on Thursday, the Editor thought it his duty to attend, in order to administer a dose of prussic acid to him. When challenged, however, Monsieur Chabert, in the most peremptory manner, refused to take the poison. Considerable uproar ensued, and Monsieur Chabert, after much prevarication, promised that the money should be returned, and he left the room to give the check-tickets, as he said, to the cashier. He was immediately followed by a large portion of the company—pressed upon rather severely by several gentlemen down the staircase, and at length was fairly got out upon the pavement in Regent Street, where, finding one of the gates of the area open, he bolted from his pursuers down the steps, ran up the entire length of the area towards Oxford Street, and ultimately concealed himself in a coal-cellar. Attention was then directed to the proprietor of the rooms, Mr. Welch, who, after much clamour on the part of the assembly, directed that the money should be returned, or tickets be given to the claimants, securing payment on another day. The exhibition-room was crowded to excess, and it was stated, at the doors, that upwards of five hundred persons left who were unable to obtain admission.

As we are just going to press with this part of our Journal, we have neither time nor space to say more on the subject of this disgraceful humbug; but in our next Number we will endeavour to publish a full and accurate report of the proceedings. It is, however, more than probable, that public curiosity will be gratified by an account of them in the daily journals.

[1] Vide "Looking Back" in THE LANCET of Jan. 18th, p. 178, and Feb. 1st, 1908, 383.

THE LANCET.

LONDON: SATURDAY, FEBRUARY 8, 1908.

The Assassinations in Portugal.

FOR the third time within ten years the ruling house of a European country has had one of its most prominent members struck dead by the weapon of an assassin. On Sept. 10th, 1898, the Empress of AUSTRIA was done to death by LUCCHENI. On July 29th, 1900, King HUMBERT of Italy, whose life had been twice previously attempted, was shot at Monza by BRESCI. And on Feb. 1st, 1908, King CARLOS of Portugal and his son the CROWN PRINCE were shot dead in their carriage by sundry assassins armed with repeating carbines. Queen AMÉLIE and the Infante MANUEL, now the KING, escaped as by a miracle, for the assassination had been most carefully planned, for there are said to have been some 30 men told off to carry out the plot, which apparently included the killing of the whole Royal Family. In the presence of such a tragedy our modern civilisation stands dumb; we can but offer our sympathy to the widowed QUEEN deprived at one blow of her husband and her son.

All modern political assassinations have one marked feature in common and that is their absolute uselessness from the point of view of the fanatics who plan them. From the murder of President LINCOLN in 1865 down to that of King HUMBERT not one assassination has brought about any change of constitution, and in some instances, instead of obtaining more liberty, the killing of the ruler has very naturally been the means of increasing repressive measures. No common reason has ever governed these crimes. In many instances the slain ruler was the head of a republic, for instance, LINCOLN, GARFIELD, CARNOT, and MCKINLEY, while the Empress of AUSTRIA was not a ruling monarch. ALEXANDER II., the last Emperor of Russia who met his death by assassination, had already freed the serfs and was on the eve of granting a constitution when he was killed. HUMBERT of Italy was unsparing in his care for his people and his devotion during the appalling calamities which afflicted his country, such as the earthquakes in Ischia in 1881 and in 1883 and the cholera at Naples in 1884, was as humble and self-sacrificing as any man's action could be. CARLOS of Portugal was a popular and (in the words of our PRIME MINISTER) "a manly, friendly, kindly king." His desire to promote the well-being of his subjects was genuine. Our readers, for example, will remember his eloquent speech at the opening of the International Congress of Medicine at Lisbon in 1906, in which he referred to the necessity for organised work against the ravages of tuberculosis, while testifying to the personal efforts in this direction made by Queen AMÉLIE.[1] The CROWN PRINCE was a popular and blameless youth. The brutal murder of father and son leaves the dynasty at least as firmly seated on the throne as it was before, though the principle of the dictatorship has been abolished. The latest crime proves once again that nothing is sacred to the modern political assassin. He has but one ideal—namely, a blind hatred of any authority. It is enough that a man should be the titular head of a State and at once he is a mark for the knife, the bullet, or the bomb. The political assassin—that is to say, the actual murderer—is, as a rule, a man of no education, or of worse than no education, some one who has imbibed washy theories about liberty, which word he translates into license. Behind the actual murderer we find usually a group of badly educated unemployed professional men who disdain a life of honest work and who knowingly or unknowingly are always ready to hound on the worse educated lower classes to deeds of blood which they themselves are too cowardly to perform.

As to the political events which have led up to the present crime it is not our province to discuss them. Given a Latin population, a widespread ignorance, a people quick to feel and quick to resent, and one conscious, or partially so, of the time when Portugal was paramount throughout nearly the whole known world, political unrest is to be looked for; the appointment of a dictator seems to have been the spark which set fire to the powder. To the young king who with his widowed mother will, it seems, have to share between them for some years at least a burden the weight of which might well overcome an experienced ruler the sympathies of all in this country will go out. Portugal has been leagued in friendly relations with the inhabitants of these islands since 1145, and there was a formal alliance between the two Crowns in the reign of HENRY V. In many ways our peoples are alike. Both Portugal and these islands have bred hardy warriors, explorers, and navigators. From both lands great geographical discoveries have resulted, while the sovereigns of either country have only recently been received in the other's land with every mark of affection and respect. In no foreign country more than in the United Kingdom will sorrow for the living, regret for the dead, and horror at the crime be more widely spread.

[1] In our issue of April 23th, 1906, we published an interesting picture of the King and Queen of Portugal presiding at the opening ceremony of the International Congress.

Quack Medicines in Japan.

"DANS l'adversité de nos meilleurs amis," wrote LA ROCHEFOUCAULD, "nous trouvons toujours quelque chose qui ne nous déplait pas," and we are indebted to the number for last August of the *Journal of the Asiatic Society of Japan* for the information that our very good friends in the island empire of the East are sufferers to almost as great an extent as ourselves from the plague of quack medicines and quack advertisers. There is at least this much which may not be displeasing to us in the intelligence that, assuming, as we may surely do, the supply of quack medicines to be a response to some demand deeply seated in human nature, we are very likely to receive from Japan before long some practical suggestions concerning the way in which this demand may be satisfied with the smallest amount of injury to the community. Our allies are usually both scientific and thorough-going in any reforms which they undertake; and if it were ever shown that quacks and quack medicines were to them the public injury and nuisance which they are to ourselves, we have little doubt that remedial measures from which we might take a lesson would be adopted with regard to them.

In the meanwhile, it is interesting to hear that the public places of Japan are being systematically invaded by the unsightly advertisements which were first introduced in the United States and have spread with lamentable rapidity amongst ourselves; because an outrage to the public sense of beauty and fitness is perhaps more likely to bring about reforms than any probable recognition of the mischiefs done by quacks and their nostrums to the public health. There is, at least, one point in which the Japanese administration contrasts favourably with our own, and it is that although the makers and sellers of quack medicines are taxed, as prostitution and other noxious trades are taxed in many countries, they are not, as with us, taxed in a manner which appears to imply governmental sanction or approval. There is no such a thing as a "government stamp" without which the preparation is not "genuine," and which is accepted by the ignorant as implying that if not Sir HENRY CAMPBELL-BANNERMAN or Mr. BALFOUR at least the Home Secretary is responsible for the "genuineness" in question, and is an accessory to the statements put forth by bold advertisement. Whenever Japanese statesmen realise that the national expenditure on quack medicines is, to say the very least, an entirely wasteful one, that reliance upon these preparations constantly serves to postpone the proper treatment of originally curable maladies until the period of curability has passed away, and that a very large proportion of the so-called remedies are merely combinations of "nips" of alcohol with soothing doses of narcotics, calculated to bring these things into homes to which they would not otherwise have obtained access, we shall no doubt see the prompt adoption of remedial measures against the insidious sale of very dangerous poisons. If that time should come we may at least hope that some among our own politicians will be able to discover a chance of popularity in following the Japanese example.

It appears from the articles by Mr. ROYDS and Mr. CLEMENT in the journal to which we have referred, that while the sale of quack medicines in Japan is effected by an organisation of pedlars rather than in shops, the representations put forth by the makers do not differ in any material degree from those with which we are only too familiar. Among the things sold are "brain-healing pills," "poison-expelling pills," "spirit-cheering pills," "heal-everything powders," "one-dose-healing powders," "life-supporting powders," and "touch-the-spot pastiles." Our "pills worth a guinea a box" are fairly surpassed by the "thousand dollar pills" of Japan, pills the selling price of which is, we believe, expressed in fractions of a penny. In other respects, too, there are many points of resemblance; and the chief differences between the English quack and his Japanese brother appear to depend on the fact that the popular superstitions to which both appeal are somewhat different in the two countries. But for this the methods and the pretensions are the same in both, and scarcely depart from those which prevailed among ourselves 150 years ago and were described by GOLDSMITH in his "Letters from a Citizen of the World." Then, as now, our quacks received their knowledge of medicine by immediate inspiration from heaven and often spent a great part of their lives in unconsciousness of any latent excellence until a bankruptcy or a residence in jail called their miraculous powers into exertion. Then, as now, notwithstanding the existence of infallible remedies for every disease which it is possible to mention, there were many who thought it proper to be sick and even sometimes to die. "Yes, by the head of CONFUCIUS, they die, though they might have purchased the health-restoring specific for half-a-crown at every corner."

A Ministry of Public Health: Is it Practicable?

THE people of this country are at last awakening to the fact that if the nation is to hold its own in the constant struggle for survival which is part and parcel of nature's method of improving the world's stock, the physical fitness of the individual must receive more attention than heretofore. It is true that the death-rate is steadily declining and that the toll levied by that disease which has been erroneously termed the "white man's plague" is slowly but surely becoming less, but it is equally true that the birth-rate has reached a dangerously low figure, that our infantile mortality is still appalling, and that the aggregation of the bulk of our population into towns may be, and not improbably is, interfering steadily with the stamina and physique of the people. The appeal to a declining death-rate is liable to delude us, seeing that it is possible by shielding weakly persons against all those conditions which are likely to determine life by accidents or to cause a fatal issue through disease to rear a race which under untoward conditions, such as war or famine, would melt away into death or incapacity with amazing celerity. We fully admit that much of this may be mere speculation; but the fear that the speculation may be true and that we may ere many years be past have, like France, a birth-rate only equal to our death-rate is bringing home to all seriously minded persons the need for every effort to be made to improve the public health. Discontent with existing conditions of affairs is finding expression in a demand that the central health department, the Local Government Board, shall be given a better position amongst Government departments and in the Cabinet than it at present possesses, and everyone who speaks upon the subject is expected either in his prologue or his peroration to call for the creation of a "Ministry of Health."

We are afraid that most of those who make this demand have but little knowledge of what they really mean in a creative sense; but it is assumed that they are expressing dissatisfaction at the circumstance that while foreign, colonial, Indian, and military affairs are presided over by a Secretary of State, the health of the nation is consigned to a Minister who has multifarious and heterogeneous duties and who, although in the Cabinet, occupies an altogether inferior position, and who receives as an emolument a sum less than half that accorded to a Secretary of State. In other words, Mr. BURNS—who is, or should be, responsible for the physique of those who man our ships and form our territorial forces, and who should be doing something to insure that there may still be a margin of population which may help to keep out

colonies supplied with immigrants—is practically in a subordinate position, with a result that considerations as regards health are relegated to a second place in the councils of the nation. So much is clear, but the immediate creation of a Ministry of Public Health does not follow. To detach a small portion of the administrative routine of the Local Government Board and to accord to it the title of a "Ministry of Health" would be to create an additional Government department with no status, no direct voice in the Cabinet, and no power with the Treasury. Such a step would seem to us to put back the public health progress of this country by a quarter of a century, much as we sympathise with many of the arguments of those who desire such an innovation.

The remedy for the present admittedly unsatisfactory state of affairs is, we think, not the division but the aggrandisement of the Local Government Board, the expansion taking the form of creating a Secretary of State for Public Health, upon which would follow the development of that medical department the classical researches and reports of which have carried its fame far beyond these isles but which has not received from the State the encouragement which it unquestionably deserves. A Government department occupying but a very secondary rank in the Cabinet always runs the risk, as events have over and over again shown, of losing by promotion the services of a valuable Minister. We have recently heard rumours of changes which would transfer Mr. BURNS to a higher office and which would fill the Local Government Board with an untried hand who might occupy the next few years in learning the work, only to be removed at the end of that time by promotion. In the name of public health we protest against a condition of things which makes this waste of force possible at a time when the President of the Local Government Board is about to introduce into the legislature measures of the greatest importance as regards health. The subject will be shortly discussed in Parliament by Mr. CHAPLIN, who is to move an amendment to Sir WILLIAM HOLLAND'S amendment to the address, and this, if carried, will express the opinion of the House of Commons that the Local Government Board shall be placed on a par with the office of a Secretary of State. We sincerely hope that this movement will be supported by all municipal and public bodies throughout the country and that powerful deputations will wait upon the PRIME MINISTER urging the emancipation of public health from the disqualification and anachronism of being associated with a secondary position in the State.

HARVEIAN SOCIETY.—At the annual general meeting held at the society's rooms the following officers were elected for the ensuing year. President: Mr. D'Arcy Power. Vice-Presidents: Dr. G. A. Sutherland, Dr. C. Buttar, Dr. H. J. Macevoy, and Dr. W. H. Blenkinsop. Treasurer: Mr. Francis Jaffrey. Honorary secretaries: Mr. T. Crisp English and Dr. W. H. Willcox. A good programme of work has been arranged. The Harveian lecture will be delivered by Sir Almroth Wright upon Some Points in Connexion with Therapeutic Immunisation, and among other papers promised may be mentioned one by Dr. Samuel West on the Treatment of Pneumonia, to be followed by a discussion.

Annotations.

"Ne quid nimis."

TUCKER v. WAKLEY AND ANOTHER: THE SYMPATHY OF THE MEDICAL PROFESSION.

WE are truly grateful to the many members of the medical profession who have written to us in terms of sympathy in regard to the issue of the recent libel action. It is plain to us that the medical profession has perceived fully that the course which we took was dictated to us by every reason there is for our existence and by every tradition of our career. At a meeting of the Council of the British Medical Association held on Jan. 29th, on reference being made to the case, the Chairman of Council, Mr. Edmund Owen, was requested to convey to us the following gratifying resolution which we learn from Mr. Owen was passed by the Council unanimously:—

RESOLUTION.

That the Council, recognising the injury done to the public by the uncontrolled sale of secret remedies, desires to place on record its entire sympathy with the proprietors of THE LANCET on the result of the recent action, Tucker v. Wakley and Another.

We desire to thank the Council of the British Medical Association, and the great constituency which they rule, for their valuable support.

DANGER IN GAMES FOR BOYS.

AN action was tried recently in the High Court in which a schoolmaster was the defendant and the plaintiff a schoolboy whose leg had been broken while playing a game under the supervision of the master. It was contended that the defendant was negligent in permitting a dangerous game, consisting in races between boys, each of whom carried another boy on his back, across an asphalted playground. The plaintiff was said to have carried a boy heavier than himself and to have slipped at a gully and fallen, fracturing his thigh. Medical evidence to the effect that the game was dangerous and also that it was not calculated to lead to any desirable physical improvement in the player and so fulfilled no useful object was given by Dr. J. N. McTurk of the Hospital for Sick Children, Great Ormond-street, but Mr. Justice Lawrance appears to have taken the view that to give effect to such an opinion would unduly restrict boys' games, and comparisons were made by him between the accident which occurred and the possible injuries which may be inflicted at cricket by the ball striking a boy's head. The jury eventually found a verdict for the defendant with which none need find fault if allowance is made for the position of a master in an elementary school, who no doubt did his best to organise the amusements of those entrusted to his care in circumstances which render healthy and recreative exercise in which all can join a difficult thing to provide. At the same time, the opinion that the game played is not a desirable one is surely a correct one. It has attractions for boys because it requires no apparatus beyond what they themselves can supply and it lends itself to friendly competitions in strength and endurance. It is, however, very easy for the carrying boy to fall while overweighted by his fellow borne on his back, and when he falls he does so not only with the other on top of him but with no power to save or to protect himself, as his hands are occupied in keeping his rider in his place and he has no time to disengage them. If the plaintiff had come down on the asphalt on his face he would probably have suffered considerable disfigurement, and though he or any of his fellows might have fallen without actually

injuring himself it was not likely that a fall would prove painless. The question how to provide exercise and amusement for a large number of pupils in the small space available in metropolitan and urban schools is not an easy one to answer. Games as understood in "public schools" are out of the question, and the suggestion made by Dr. McTurk in reply to a question of Mr. Justice Lawrance, who asked if he would recommend diabolo as a safe form of recreation, was to the effect that dumb-bell and bar-bell exercises would be suitable. The difficulty, however, of introducing exercises tending directly to physical development lies in the danger of their becoming merely an irksome and so an unpopular and a useless form of drill. Much, however, might be learned from the methods of training and of exciting emulation in such matters practised in Switzerland and elsewhere on the continent, and it may be suggested that competitions between the various schools in the London County Council's district held in the public parks might arouse sufficient spirit of rivalry to make physical training generally popular and so generally beneficial. In order to produce this result the competitions probably would have to be not between picked teams but between large bodies of the pupils consisting of all who had attained to a given degree of proficiency. The performance of such exercises is as least as manly a form of amusement as races "pick-a-back," and it may be pointed out that such combined displays of this nature as are seen annually at the Military Tournament are always a popular item in the programme.

CALMETTE'S OPHTHALMO-TUBERCULIN REACTION.

IN our issue of Feb. 1st we published a short note from our Paris correspondent dealing with the ophthalmo-tuberculin reaction described by M. Calmette and we now lay before our readers a fuller *résumé* of the paper read by M. Calmette, referred to by our Paris correspondent. M. Calmette said that in the short time which has elapsed since he communicated his discovery to the Academie des Sciences (June 17th, 1907), the almost absolute accuracy with which the reaction reveals the existence of tuberculous lesions *in evolution*, although manifested by no clinical signs, has been confirmed by numerous observers. Many observations have shown that the newly born children of tuberculous mothers do not give the reaction. On the other hand, infants at the age of from 1 to 2 years react in the proportion of 3·42 per cent. and the percentage increases rapidly with age. It is 5·26 at the ages of from 2 to 5 years, 13·5 at the ages of from 6 to 10 years, and 14·9 at the ages of from 11 to 15 years. These results are in accordance with the observations of Bang and Nocard that in cattle tuberculosis is scarcely ever congenital. By repeating the test sufficiently often M. Calmette suggests that the exact time at which tuberculosis attacks a child may be ascertained. By studying at the same time the conditions of the family and the food supply he thinks that the part played by family contagion (*contagion familiale*) and by the milk of tuberculous cows may be ascertained. By applying the test periodically to a family, or at least to those members in whom tuberculosis is feared, the infection may be detected at an early period, before even any clinical sign is perceptible. The patient may thus be isolated from his family and sent to a sanatorium and treated at the most favourable time. At the anti-tuberculosis dispensary of Emile Roux at Lille the test was applied to the children of families the members of which were under treatment. Thus children apparently healthy were ascertained to be tuberculous and were sent to the country and placed in the best hygienic conditions. At the same time they continued their school studies until the instillation of tuberculin into the eye, repeated every two or three months, no longer gave a reaction. They were then sent back to their families. M. Calmette thinks, with Marfan, that experiments on animals and the observations on patients discharged several years from sanatoriums show that the complete cure of chronic tuberculous glands confers immunity against tuberculosis. He therefore hopes that a great number of these children will remain immune. The reaction would be equally useful in the examination of pupils who seek admission to schools and are suspected to be tuberculous. Tuberculous pupils could thus be arrested "on the threshold"; in the army and navy the test could be put to a similar use. Professor Simonin of the military hospital of Val-de-Grâce has recently stated that the reaction reveals latent or insidious tuberculosis not evident clinically which provokes distant functional troubles of unknown causation. It thus enables patients suffering from dyspepsia, palpitation, neurasthenia, "atonic rheumatism," and so on, to be discharged from the military hospitals which they encumber. M. Calmette finally claimed that thanks to its fidelity and harmlessness, attested by more than 10,000 observations published in all countries, his reaction merited the confidence of clinicians and could play a great part in the social struggle against tuberculosis. By its use in families, in schools, in the army, in hospitals, and in all collections of persons those who were bearers of active tuberculous lesions could be detected.

THE LEES AND RAPER MEMORIAL LECTURE.

THE eighth Lees and Raper Memorial Lecture was delivered in the town-hall, Oxford, on Feb. 4th, by Mr. W. McAdam Eccles, under the presidency of the Regius Professor of Medicine, Dr. William Osler. The subject of the lecture was the Relation of Alcohol to Physical Deterioration and National Inefficiency. Mr. Eccles began by alluding to the action of alcohol upon living tissues, and then went on to quote figures from life assurance societies showing that total abstainers and their children were far better "lives" than those who took alcohol. Mr. Eccles went on to point out that alcoholic stimulants led to physical degeneracy and this in turn to inefficiency. Inefficiency of individuals led to inefficiency of the nation, and this in turn to loss of supremacy. He put forward the following suggestions to stem alcoholic indulgence: education of mothers and fathers, prohibition of the entrance of children into public-houses, feeding and teaching of the children of the land, limitation of the opportunities for adults to obtain liquor, the provision of sound recreation, and the promotion of research with the publication of its results. The numerous borough and parochial health societies springing into existence could do much to increase the knowledge of mothers. Municipal posters concerning the effects of the abuse of alcohol placarded on the hoardings were very valuable. The recent disclosures as to the results on child life of the entrance of children into public-houses called for immediate and adequate legislation. But it was folly if, when the child was kept free from alcohol, he or she were allowed to become stunted in growth from a want of sufficient and proper food. Some means must be devised whereby hungry school children should be fed. The instruction of the child in the elementary school was of the utmost importance. The elements of hygiene and temperance were vital, and they could be made very attractive to even the very young, if inculcated by a teacher of experience and ability. When a child had been taught these principles and had reached an age of discretion he or she should not be unduly tempted to fall from right paths by the continuance of a public-house at every street corner. If the public-house went something should take its place. What could be better than a happy home with a cheerful hearth, and a decent "winter garden"

or concert-house within reasonable distance? Moreover, to alter still further the trend of public opinion the universities should themselves encourage research into the many problems involved in the question of alcohol and publish the results with their weight of authority. By the establishment of a sensible and firm public opinion on the matter nearly all the difficulties of politicians and social reformers would disappear. While we are in agreement with Mr. Eccles as to the damage wrought by over-indulgence in alcoholic drinks and with many of his suggestions for dealing with the matter, yet we are not by any means certain that legislation will be of any avail. Education, the provision of places other than public-houses for amusement and light refreshments, combined with honest light beer or some similar drink, will do more to solve the problem than any amount of repression. Within the last 20 years the consumption of alcoholic drinks has diminished enormously and that not owing to legislation but to the development of common sense and the provision of rational amusement for those whose lives are cast among grey and dismal surroundings.

THE CHARRED CEILING.

A SIMPLE test which everyone can try for the presence of free sulphuric acid in a liquid consists in streaking the liquid upon a piece of white paper as with a quill pen and drying the paper before the fire. The track of the sulphuric acid, if any is present, is marked out by a black line appearing as soon as the paper is dry and warm. In short, the acid in this procedure is concentrated until it becomes strong enough to char the paper. The test is quite delicate and is practically demonstrated in the rooms of a house lighted by means of coal gas. Sooner or later the ceiling of a room in which gas-lights are burning is blackened, and if chimneys over the burners are used the blackening is more or less localised in a ring immediately over the burner. The common acceptance of this is that soot is deposited, whereas the discolouration may not be due to soot at all. We had occasion recently to examine the circular patches of discolouration which appeared in just those places on a papered ceiling which were immediately above a gas burner. The apparently charred pieces of paper were very acid and sour to the taste and on soaking them in distilled water a weak solution of sulphuric acid was obtained. Further examination showed that the amount of sulphuric acid in the paper was equivalent to as much as 16 grains of pure acid to the square foot. The charred ceiling, therefore, is the result of the action of sulphuric acid derived from the combustion of the sulphur compounds contained in the gas upon the organic substances in the ceiling or in the paper (if it happens to be papered). It is fairly reasonable to suppose that the action of this sulphuric acid is not limited to one part of the ceiling but in course of time becomes general. The use of a chimney on the gas burner concentrates the mischief on the ceiling and hence the more or less rapid appearance of black circular patches immediately over the burners. In the case of a papered ceiling the paper is sooner or later destroyed, chars, crumbles, and peels off. When there is no chimney the products of combustion are to an extent distributed and then the charring is spread over a greater surface, the ceiling getting seared uniformly throughout, but not so intensely, of course, as when the effects of the gases are localised. This is why the inverted incandescent gas burner appears to blacken the ceilings to a less degree than the upright burner provided with a chimney. The products of combustion in the former case are distributed, while in the latter they are concentrated and directed to a comparatively small part of the ceiling. The worst feature from a health point of view of gas lighting is undoubtedly this production of sulphurous and sulphuric acids, for in comparison with these the other products of combustion—namely, the moisture and carbonic acid gas which are both normal products of human exhalation—may for all practical purposes be neglected unless, of course, no precautions are taken in regard to their removal by ventilation. It is to be regretted, therefore, that the hitherto strict requirements concerning the permissible amount of sulphur components in coal gas are in many cases relaxed. We are quite aware that the complete removal of sulphur from coal gas is a very costly business in its manufacture, but if an economical method of freeing coal gas entirely from sulphur could be devised and put into practice the chief argument which hygienic considerations raise against the use of coal gas for lighting and even heating purposes in some cases would have to be dismissed. As it is, the obvious drawback to coal gas containing sulphur compounds is that the products of its combustion are calculated to do damage to the appurtenances of the dwelling room and add to the atmosphere a constituent or constituents which in the interests of health should not be there.

THE HISTORY OF KEFIR AND ITS MODE OF PREPARATION.

KEFIR has been esteemed as a beverage from time immemorial by the inhabitants of the northern part of the Caucasian mountains. Its history and mode of preparation are well described by Dr. J. V. S. Stanislaus in the January number of the *American Journal of Pharmacy*. Kefir is not an imitation of koumis which is made by the Tartars from mare's milk. It is prepared from cow's milk, by the action of a ferment called "kefir grains." The origin of kefir grains is not definitely known but the tribes of the Caucasus consider them to have a sacred origin. There is an Oriental legend that the first Mohamed conferred this blessing upon his chosen people. Hence the grains are known as the "millet seeds of the Prophet." In Europe they are variously known as "kefir champignons" and "kefir mushrooms." Professor Podwysocki of Riga has explained their origin in the following way. Certain tribes, migrating into the mountains, were obliged to raise more cattle than horses, with the result that there was a shortage of mare's milk. They therefore added the koumis ferment to a mixture of cow's and mare's milk and in the course of time the ferment acquired a different form and composition, constituting what are known as kefir grains. Until recently the tribes dared not offer the grains for sale or even as a gift, because there existed a strong belief that by parting with some of them the remainder would lose their fetichistic power to ferment. At the present time they may be purchased without much difficulty. When kefir grains are added to cow's milk alcoholic and lactic fermentations occur and the albuminous bodies are peptonised. Kefir, when 24 hours old, contains 4·15 per cent. of albuminous substances, as compared with 4·08 per cent. in cow's milk. It contains, in addition, 0·49 per cent. of alcohol, 0·52 per cent. of lactic acid, and 2·05 per cent. of lactose, as compared with 4·92 per cent. in cow's milk. It contains no fat, is whitish in colour, and pleasant to taste. In preparing kefir healthy grains may be recognised by their irregular form and size, their hardness, and yellow to brick-red colour. The first step consists in making the "starter." This is done by macerating the grains in warm water for 24 hours, changing the water at least four times. Two tablespoonfuls of the soaked grains are then strained from the water and added to about 350 cubic centimetres of fresh milk. The vessel is covered with muslin and kept at a temperature of 15° to 18° C. until the grains begin to float upon the surface of the liquid, care being taken to stir the mixture occasionally during the first few hours. The grains can be used again several times. The strained liquid constitutes

the "starter," and the grains can be covered with milk and set in a cool place until the next day. The "starter" is then mixed with 188 cubic centimetres of boiled milk in a bottle which should not be completely filled. The bottle is corked immediately and kept at a temperature of 20° to 23° C. until the liquid begins to thicken. This process requires from 18 to 25 hours in winter and from 14 to 20 hours in summer. The thickened liquid is then agitated vigorously and kept in a cellar at 9° to 12·5° C., the agitation being repeated every two hours. Kefir is known as "day old," "two day old," and "three day old," according to the time allowed for fermentation. The longer the grains are used the better is the quality of the product. Kefir so prepared possesses a pleasant, refreshing, and slightly acid taste. By prolonging the period of fermentation the alcohol and carbon dioxide are increased and a more thorough peptonisation is secured. Kefir may be combined with ferric lactate or pepsin for administration in anæmia and dyspepsia.

MEDICAL FEES AT CORONERS' INQUESTS.

THE Lancashire county council has come to the decision to pay in the future only 1 guinea per inquest to medical practitioners attending to give evidence, even if several days are required for the completion of the inquiry. In support of this decision the clerk of the council refers to Section 22 of the Coroners Act, 1887, which governs the question of fees to medical witnesses, making reference, we presume, only to the giving of evidence and not to the making of post-mortem examinations. This is a momentous decision of the council and we are not surprised to find our esteemed contemporary the *Liverpool Courier* asking "if the county financiers are right in their reading of the Coroners Act, how is it the discovery has been so long delayed?" and adding: "perhaps the committee has reached an interpretation which the legislature never contemplated?" Looking carefully at the wording of the Act we are compelled to agree that the interpretation of the finance committee of the Lancashire county council may be literally correct, for we cannot find anything definite in the Act as to additional medical fees for protracted work. Doubtless the legislature had in mind that an inquest seldom occupies more than one day and that the coroner could easily make arrangements for additional medical assistance. At the same time the attitude of the Lancashire county council may eventually lead to a result which they hoped to avoid—viz., the undue swelling of expenses. Supposing, for instance, that a medical practitioner has obeyed the coroner's summons—if he does not he renders himself liable to a fine of £5, attends on the first day and gives evidence, and then is re-summoned by the coroner on a subsequent day we are inclined to think that he would be entitled to demand an extra guinea. Of course, the coroner, the servant of the county council, might have to pay the fee out of his own pocket or fight a pretty point on behalf of the medical profession, and we are not so unreasonable as to expect that he should be invited to do anything of the sort. But it is certainly ridiculous that should a prisoner be tried at the assizes on a coroner's inquisition alone the medical witness would be entitled to the ordinary fees allowed for attendances in criminal courts, while according to the recent decree of the Lancashire county council he would only receive 1 guinea for employing an equal or a greater amount of valuable time while attending the preliminary proceedings before the coroner. It is pleasant to read the forcible opinion of Mr. Coroner Brighouse, who is a solicitor, and his condemnation of the slight on the medical profession. The subject is worthy of the attention of all our readers, for the precedent may be followed by other county councils to the detriment of a profession already burdened with many inadequately paid duties. We are grateful to the *Liverpool Courier* for its evidently sympathetic attitude towards the medical profession, for we have to remember that a certain section of the press owes an appreciable portion of its revenue to the misrepresentation of our calling.

JANUARY AT HOME AND ABROAD.

—	Highest temperature.	Lowest temperature.	Mean maximum temperature.	Mean minimum temperature.	Mean temperature for month.	Mean range of temperature.	Days with rain.*	Total fall in month.
	°	°	°	°	°	°		ins.
Scilly	54	33	49	42	45·3	7	11	1·17
Jersey	52	24	45	36	40·5	9	6	0·88
Torquay...	55	24	46	36	41·0	10	9	1·26
Weymouth	53	23	44	35	39·4	9	6	0·92
Bournemouth ...	53	19	43	33	38·0	10	5	0·76
Sandown, Isle of Wight	53	25	46	35	40·7	11	6	1·38
Brighton	48	20	42	33	37·5	9	3	1·46
Bath	53	17	43	32	37·5	11	6	1·27
Harrogate	56	17	41	29	35·0	12	7	1·60
Manchester... ...	57	21	42	33	37·3	9	7	2·04
Nottingham... ...	56	16	42	30	35·7	12	7	1·07
London...	54	20	43	32	37·4	11	4	1·50
Paris	53	12	39	26	32·2	13	6	0·52
Berlin	50	12	37	26	31·5	11	11	1·52
Brussels	48	8	37	24	30·5	13	11	1·13
Nice	57	28	51	37	44·3	14	No rain.	
Genoa	55	32	49	42	45·5	7	3	1·65
Florence	64	25	45	33	39·0	12	6	1·25
Rome	57	29	51	37	43·6	14	7	1·71
Naples	64	30	53	43	48·0	10	9	3·40
Palermo	68	36	60	43	51·4	17	6	1·09
Malta	65	48	60	52	55·7	8	5	1·05
Algiers	72	43	64	51	57·6	13	9	5·06
Biarritz...	64	32	56	41	48·4	15	7	1·74
Lisbon	64	39	56	47	51·6	9	10	3·42

* A day with at least 0·04 in.

The rather prolonged spells of frosty weather which prevailed over the United Kingdom during last month paid only transitory visits to Southern Europe, while Palmero, Malta, Algiers, and Lisbon escaped the frost altogether. The Scilly Islands experienced a like exemption, but over this country generally, and throughout Central Europe, the Low Countries, and the north and east of France the cold was often very severe. Although over the northern half of Italy the wintry rigour was reduced by the proximity of the Mediterranean, the sheltered thermometer descended to the freezing point or below it on nine different nights at Rome and on 16 at Florence. In comparing the temperature at places in the south of these islands with that in Southern Europe it will be observed that the figures at Scilly were almost identical with those at Genoa, while the nights at Scilly (as shown by the mean minimum temperature) were no less than five degrees warmer than those at Nice and Rome, nine degrees warmer than those at Florence, one degree warmer than those at Biarritz, and only just one degree cooler than those at Naples and Palermo. The warmth of the days was, however, far greater at nearly all the resorts on the shores of the Mediterranean, especially at Palermo, Malta, and Algiers. At this last-mentioned place the nights were as mild as the afternoons were at Bournemouth, Bath, and in London, and the days were as warm as the average day in the south of England towards the end of May. Paris, Berlin, and Brussels were all much colder than London and the English Midlands, the mean temperature of the month at

Brussels, 30·5°, being exceptionally low. Both at home and abroad the period was dry. On the French Riviera, as represented by Nice, there was no measurable quantity of rain, while at almost all the other foreign resorts, as well as those on our own south coast, the number of days with rain was very small. As a rule, the month was very sunny in Italy, the Riviera, and the Mediterranean region generally, and there was also much more sunshine than usual on the south and south-west coasts of this country. The figures from the foreign resorts were not available and those for the home resorts are not given in the above table, but the number of hours registered at many places in the south and south-west of England was between 80 and about 100. At some spots the figure was about twice as high as usual. Over the more inland parts of the country the sun was frequently obscured by fog and mist. In London (Westminster) there were only 22 hours of sunshine, while at Manchester there were no more than about ten hours. It would not be fair to compare the duration of sunshine in London with that at places on the south coast, but as the sun shone brightly for 64 hours at Bath, an inland spot practically in the same latitude as the metropolis, it may be assumed that the smoke and dust robbed the more central parts of London of at least 40 hours of health-giving sunshine. At Manchester there were 25 sunless days, at Westminster 14, and at Nottingham, where the aggregate number of hours of sunshine was 38, there were also 14 sunless days.

ALCOHOL IN THE TREATMENT OF PNEUMONIA AND ENTERIC FEVER.

THE International Union of Medical Abstainers, founded at Stockholm in 1907, has resolved as part of its operations to attempt the solution of the question as to the value of alcohol in the treatment of lobar pneumonia and enteric fever. A statistical inquiry is to be instituted and "all hospital and infirmary physicians, medical superintendents, or registrars are earnestly requested to assist in this work, both in the interests of medical science and of the sick." Whilst agreeing that trustworthy information on this point is desirable we cannot give unqualified approval to the methods which it is proposed to adopt. The proposed lines of the inquiry are as follows. There are two distinct plans which may be adopted by those wishing to help in the accumulation of statistics: "Plan A. 1. Every participator declares himself prepared to treat all cases of lobar pneumonia and enteric fever over 15 years of age which he may have to treat in hospital or otherwise between January 1st and December 31st, 1908, alternately—i.e., the first with, the second without, alcohol, and so on. 2. The administration of alcohol is to be as usually given by the reporter both as to form, quantity, and duration. It is desirable that a mixture of alcohol and water should be used of definite strength as the commercial wines and spirits vary considerably. 3. The other treatment will be on the usual lines according to circumstances. 4. Departure from the treatment in turn is especially deprecated, but if for some reason (such as intolerance of alcohol) it occurs it should be noted on the form with the reason for such occurrence. Plan B. 5. If the alternate treatment of cases with and without alcohol is objected to it is hoped that the alternative proposal will be adopted—viz., a simple return of the treatment as regards alcohol and the result on the same form. 6. Every case is to be reported on a form which will be supplied on request. These forms should be returned to Dr. J. J. Ridge, Carlton House, Enfield, not later than January, 1909." We imagine that few physicians, who have been accustomed to give alcohol in cases of lobar pneumonia and enteric fever, would consent to have their treatment dictated in this manner, so that their patients should be treated alternately, with or without alcohol, although they might be perfectly willing to give the statistics of the results of cases that have come under their care. Plan B commends itself to us more favourably than Plan A, but whether any trustworthy conclusions will be arrived at from this inquiry remains to be seen. The personal equation in such an investigation is difficult to eliminate but nevertheless we have no wish to discourage any attempt to arrive at the value of alcohol as a drug and we shall watch the result of this endeavour with interest.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE lectures of the Royal College of Physicians of London for the present year will be delivered at the College, Pall-mall East, on the following Tuesdays and Thursdays at 5 o'clock: The Milroy lectures on Melitensis Septicæmia (Malta or Mediterranean Fever) will be delivered by Dr. J. W. H. Eyre on March 5th, 10th, and 12th; the Goulstonian lectures on the Influence of Pregnancy on certain Medical Diseases, and the Influence of Certain Medical Diseases on Pregnancy, will be delivered by Dr. Herbert French on March 17th, 19th, and 24th; the Lumleian lectures on Points of Practice in Maladies of the Heart will be delivered by Sir James Sawyer on March 26th and 31st and April 2nd; and the Oliver-Sharpey lectures on the Present Position of our Knowledge regarding the Suprarenal Capsules will be delivered by Professor A. E. Schäfer, F.R.S., on April 7th and 9th.

WATERSHEDS AND RAINFALL.

AT the annual meeting of the Royal Meteorological Society, which was held at the Institution of Civil Engineers on Jan. 15th, Dr. H. R. Mill, the President, delivered a most interesting address upon "Map Studies of Rainfall." Dr. Mill is the director of the British Rainfall Organisation, so that he dealt with a subject of which he possesses special knowledge. After describing the method of preparing annual, monthly, and daily maps of rainfall, he went on to draw attention to the extreme importance of accurate knowledge of the rainfall of a county, for the problem of the rivers is becoming acute. He added that the increasing strenuousness of the struggle for the possession of large water-supplies is producing in England, and especially in Wales, a great amount of local jealousy and strife, for the boundaries of parishes and counties coincide but rarely with water partings and the argument has been brought forward again and again that the rainfall of one county should not be diverted for the use of the inhabitants of another. But, continued Dr. Mill, "I think that the study of rainfall can do something to suggest the lines on which such disputes should be settled. ..... Most of the rain is borne to our islands from the Atlantic; ..... it is of the air, and no boundary checks it; the largest annual falls come down on and near the watersheds because there the land produces its maximum influence as a rain compeller." Therefore, concluded Dr. Mill, care for the water-supply of the country is by no means a parochial but in the fullest sense a national matter and should be dealt with in the interests of the nation as a whole, the units of subdivision when such are required being the natural units of river basins. We congratulate Dr. Mill upon his address which deals with a matter of the first importance. He shows that physical geography may be taken to afford as good an argument for the precipitation of the West being used to supply the great towns of the East of these islands as political geography may be taken to afford an opposite argument. London and the busy Welsh towns of Cardiff and Swansea are already arming for the fight for the possession of the Welsh watersheds. Liverpool has annexed the Vyrnwy district and Manchester the waters from Thirlmere. Unless that congeries of cities called London becomes

alive to the situation her citizens may soon have cause to complain with the chorus in Medea :—

ἄνω ποταμῶν ἱερῶν χωροῦσι παγαί,
καὶ δίκα καὶ πάντα πάλιν στρέφεται.

We must not be taken to imply that the Welsh scheme which has been put forward is the only solution of the problem but it is certain that the river water-supply at present available will not suffice for the population of 50 years hence. Our views on the matter were set forth at large in a leading article which appeared in THE LANCET of Dec. 14th, 1907.

INFANT MORTALITY IN HUDDERSFIELD.

A STRIKING report by Dr. S. G. Moore, medical officer of health of the borough of Huddersfield, has been published by the borough council. The report shows the result of the systematic work which has been done in Huddersfield with the intention of lowering infant mortality, and the figures for the year 1907 show the conspicuous success which has attended the efforts of Dr. Moore and his authority. During 1907, 2189 births occurred in the borough, and 212 infants less than 12 months old died, giving an infant mortality figure of 97. The records of the department extend back for 31 years, and how very successful the work has been will be perceived when we say that the present figure 97 is not only the lowest on record—the figure for the first time having fallen below 100—but the mean for the ten preceding years, 1897 to 1906 inclusive, was 135. Thus there has been effected a reduction of 28 per cent. The mean for the three years 1905–06–07 during which the work has been in progress is 117, and for the ten years preceding this, 1895 to 1904 inclusive, it was 142. The figures are shown on a chart which accompanies the report and are further summarised as below :—

—	Births registered.	Deaths under one year of age.	Infant mortality figure.	—
1907	2,189	212	97	Reduction 28 per cent.
Preceding 10 years 1897-1906	22,991	3104	135	—
The three years during which special work against infant mortality has been in progress, 1905-06-07	6,746	792	117	Reduction 18 per cent.
Preceding 10 years, 1895-1904	22,681	3215	142	—

Huddersfield, as Dr. Moore points out, is an industrial centre with not less than 25 per cent. of the female population at child-bearing ages working in textile factories. It is therefore the more surprising to find the infant mortality figure reduced to a rate comparable with that of the healthiest counties and rural districts. We congratulate all concerned on the result of their labours and hope that other authorities may be stimulated to similar exertions.

HÆMO-PERICARDIUM FROM RUPTURE OF A CORONARY ARTERY.

APART from those cases which are due to injury, nearly all instances of fatal hæmo-pericardium are due to the bursting of an aneurysm arising from the heart itself. Very much more rarely is a hæmo-pericardium produced by an aneurysm of the coronary artery. In the present issue of THE LANCET Mr. J. Lougheed Baskin records a case in which a fatal hæmorrhage into the cavity of the pericardium resulted from a gummatous deposit in the wall of the heart involving the left coronary artery about one and a half inches from its origin ; the artery had given way but no obvious aneurysmal dilatation was seen. Death in these cases of hæmo-pericardium always results from direct pressure of the effused blood on the heart. As the blood poured out from the left ventricle or from a coronary artery will exert almost the same hydrostatic pressure as that present in the left ventricle the pressure in the pericardium will be much greater than that in the intrapericardial portions of the venæ cavæ ; so that these are compressed and no blood can enter the heart and syncope follows. The quantity of blood lost has practically nothing to do with the fatal result, for the total amount of blood which can be poured out into a normal pericardium is but small.

THE DEATH OF MR. W. A. SHENSTONE, F.R.S.

THE death of Mr. W. A. Shenstone, F.R.S., will be very widely regretted by chemists and physicists alike. He will be remembered most perhaps for his consummate skill at glass-blowing, which ultimately led the way to the use of pure silica or quartz for purposes of chemical research. Silica vessels are now a commercial quantity, and since this beautiful material resists the action of extreme changes of temperature and is also unaffected by acids it threatens to replace the use of expensive platinum apparatus in many chemical operations. Mr. Shenstone was an able investigator of chemical science and contributed a number of valuable papers to the scientific societies. He was senior science master to Clifton College, Bristol, for 27 years, a post which he held up to the time of his death which took place in Cornwall on Feb. 3rd. He possessed a charming personality which contributed no little to his power as a teacher of principles and practice. His attitude towards science is well summed up in a very able series of essays on the new physics and chemistry which were published in the *Cornhill Magazine* a year or so ago. "Though science," he wrote, "reveals herself to most of us chiefly through her more obviously useful discoveries and inventions, those who look for them will still find amongst us not a few men and women as ready as any of their predecessors to devote days and nights to hard labour for no other fee than the hope of discovering a new truth, overthrowing an ancient error, or extending in some other way the boundaries of knowledge." Mr. Shenstone was amongst the great labourers of science.

THE RELATION OF ADENOIDS TO PALATAL DEFORMITIES.

IN the course of a suggestive paper in the *Dental Record* for January, Dr. Eugene S. Yonge refers at some length to the interesting question of the relation of adenoids to palatal deformities. The more important theories that have been advanced are briefly recounted, but in his opinion not one of them offers a satisfactory explanation. Some stress is laid on the fact that a large number of patients show deformed arches who are not, and never have been, mouth-breathers, while on the other hand such deformities are often entirely absent in those the subjects of well-marked nasal obstruction. Reference is made to the frequent association of high arched and contracted palate and associated anomalies in people with long narrow faces and to the view held by some that this type of face is a departure from the normal and may be hereditary. Dr. Yonge is of the opinion that the adenoids and deformed palates are not in causal relationship but are rather due to a common cause, and as an explanation of this frequent association he suggests "that if we assume that the deformities of the palate are principally due to an abnormality, which is of a hereditary or constitutional or even racial character, affecting the structure of the facial bones, we are enabled to understand why these defects may occur independently of mouth-breathing and why mouth-breathing of itself does not tend to them. We are also

enabled to understand why adenoids are so frequently found in association with these deformities; for it is well known that individuals with leptoprosopic heads are more liable to give evidence of the effects of nasal obstruction on account of the narrowness of the nasal and naso-pharyngeal cavities than persons with chamæprosopic heads. Moreover, adenoids and other forms of nasal obstruction are, for some reason, far more common in leptoprosopes than in chamæprosopes. These facts therefore will help to explain how it is that the salient symptom of nasal obstruction (mouth-breathing) is noticed so frequently in conjunction with contracted alveolar arches. It is not, of course, that individuals with chamæprosopic heads enjoy an immunity from adenoids, but the symptoms do not develop in these subjects unless the collection of adenoid tissue in the naso-pharynx (which is indeed present in practically all children) has hypertrophied to a considerable extent."

THE METROPOLITAN STREET AMBULANCE SERVICE.

AMONGST the Parliamentary business connected with the public health and carried forward from last year the consideration of the street ambulance provision for London by a Departmental Committee holds a prominent place. As that body will shortly make public the result of its deliberations we will again remind our readers of the importance of providing easy and speedy means of transporting persons injured in the streets to the nearest general hospital and of the admirable model which the City police-force has given the metropolis by the institution of its motor ambulance service. In our issue of Nov. 23rd, 1907, p. 1474, we summarised in a leading article the history of the ambulance service for London, and on that occasion as on many others we pointed out the great measure in which the Metropolitan Street Ambulance Association has helped its development. The financial aspect, of course, must not be lost sight of in these days of municipal retrenchment, but a correspondent points out that the amount expended on ambulance work by the metropolitan police is very small in proportion to the sum paid to that body by the ratepayers. The official accounts show that in the financial year 1906–07 the metropolitan police received for all purposes £1,097,495 from the rates and expended on "medical attendance, medicines, &c., for prisoners and poor persons injured in public thoroughfares" £8098 13*s.* 5*d.* We are not in a position to state to what extent this connotes expenditure on street ambulance work, but in any case the sum can only be a small fraction of the total police expenses, and if the urgent need of a more efficient and better organised ambulance service than at present prevails were more widely understood we think that few ratepayers would object to the appropriation of a larger share of their police-rate to so humane a purpose. It is to be hoped that before the end of the year the motor ambulance van will be a familiar object outside the boundaries of the City of London.

HERPES FACIALIS IN DIPHTHERIA.

Dr. J. D. Rolleston has contributed to the *British Journal of Dermatology* for November an important paper on a complication of diphtheria which though not very rare has not received much attention—herpes facialis. Of 1370 cases of diphtheria, in all of which the diagnosis was verified bacteriologically, herpes labialis was present in 55 (4 per cent.). In the great majority (42) the lips alone were affected. Much less frequently the cheeks (six cases), the chin (four cases), and the nostrils (three cases) were attacked. Orsi, the only writer who has produced a monograph on the subject of herpes facialis in diphtheria, pointed out that the herpes frequently developed on the side on which the angina was predominant. This Dr. Rolleston has observed in some, but by no means in all, of his cases. The herpes was almost invariably an early symptom; it usually appeared on the third or fourth day; in only two cases did it appear after the first week. In non-diphtheritic angina Dr. Rolleston finds that herpes facialis is still more common. Out of 145 patients admitted into hospital and certified as suffering from diphtheria, who were ascertained subsequently to have only tonsillitis, herpes facialis occurred in 19 (13 per cent.). Among the acute infectious diseases for which figures are available as to the frequency of herpes facialis diphtheria ranks sixth. Pneumonia, malaria, and cerebro-spinal meningitis lead with a frequency for each of about 40 per cent.; influenza follows at a long distance with a frequency of 6 per cent.; and typhus fever with one of 5 per cent. Diphtheria follows and then typhoid fever with a frequency estimated from 1·3 to 3·5 per cent., relapsing fever (2½ per cent.), and finally small-pox (2 in 3000 cases). Herpes zoster is very rare in diphtheria; it occurs in only 0·1 per cent. of the cases. Dr. Rolleston found that herpes facialis was most frequent in severe cases of diphtheria (5·4 per cent. of the cases); least frequent in the moderate ones (4·7 per cent.); and less frequent in the mild (2·5 per cent.). The herpetic lesions healed rapidly, leaving no scar. They were not followed, as sometimes happens in herpes zoster, by paralysis of neighbouring structures. Paralysis of the lips occurred in 37 (2·7 per cent.) of the 1370 cases but it was present in none of the cases of herpes. As to the pathology of the herpes, Orsi regards it as a cutaneous manifestation of a reflex originating in the mucous membrane of the throat or nose from a toxic stimulus to the nerves. The greater frequency of herpes in severe cases of diphtheria lends support to this view. But it is difficult to understand why in non-specific angina in which the degree of toxæmia is less herpes is more frequent.

Sir Dyce Duckworth, M.D. Edin., F.R.C.P. Lond., will deliver an address before the Paris Faculty of Medicine on Feb. 18th, the title being "Les Diathèses le Facteur Personnel dans les Maladies." The address is to be given in French in the amphitheatre of the Faculty at 9.30 P.M., and Professor Landouzy, Dean of the Faculty, will be in the chair.

THE annual Hunterian oration will be delivered before the Fellows of the Hunterian Society by Mr. W. J. M. Ettles, at 8.30 P.M., on Wednesday, Feb. 12th, in the theatre of the London Institution, Finsbury-circus, E.C. The title is "The Renaissance of Ophthalmology during the Hunterian Period." All members of the medical profession are invited.

THE dinner of the West London Medico-Chirurgical Society will be held at the Hotel Great Central, London, on Thursday, Feb. 13th, at 7.30 P.M. The President, Mr. Richard Lake, will occupy the chair. Communications relating to the dinner should be addressed to Dr. F. G. Crookshank, 27, The Terrace, Barnes, S.W.

THE first of the three Lettsomian lectures was delivered by Mr. C. J. Symonds on Feb. 3rd at a meeting of the Medical Society of London. Mr. Symonds took as his subject Tuberculosis of the Kidney and we hope in a later issue to publish a full report of his interesting lecture.

WE regret to announce the death on Tuesday morning, Feb. 4th, of Mr. William Allingham, F.R.C.S. Eng. Mr. Allingham, who was formerly surgeon to the Great Northern Central Hospital and St. Mark's Hospital, had a great

reputation as author and practitioner in his special line of surgery.

A TELEGRAM from the Acting Governor of the Gold Coast, received at the Colonial Office on Jan. 31st, states that on Jan. 30th there were 2 deaths from plague, 14 natives were in hospital, and 19 were isolated.

ANNUAL REPORT FOR 1906 OF THE MEDICAL OFFICER OF HEALTH OF THE ADMINISTRATIVE COUNTY OF LONDON.[1]

II.

CONTINUING our review of this report, we observe that Sir Shirley Murphy devotes particular attention to the behaviour of the mortality from pulmonary tuberculosis in recent years, especial regard being paid first to the relative prevalence of the disease in different sections of the community; next, to the effect of overcrowding on it fatality; and lastly, to an examination of some current theories concerning the mode of infection by pulmonary tuberculosis and of the several methods suggested for the prevention or suppression of the malady.

In the year 1906 the mortality caused by pulmonary tuberculosis in the metropolis was equal to a rate of 1·44 per 1000 persons living, without reference to age or sex; it was therefore higher than the average rate for England and Wales by 0·29 per 1000. A table in the report shows that in the year under notice pulmonary tuberculosis was not more than half as fatal in London as it had been in the decade 1851–60, the earliest period for which trustworthy records exist. From an interesting diagram we learn that the male death-rate from pulmonary tuberculosis during the last half century has averaged 2·90 per 1000, or almost exactly 1 per 1000 above the female rate. Since the year 1880, however, the rate in both sexes has been constantly below the average, the female rate having apparently declined faster than the male.

Very interesting is the table showing the distribution of fatal pulmonary tuberculosis in the several metropolitan boroughs; it is unquestionably trustworthy, for in its construction care has been taken not only to refer institution deaths to the districts from which the patients originally came but to correct the death-rate of each borough for differences in the age and sex constitution of the living. From the last two columns in the table which show the mortality in the several boroughs as compared with that of the county of London, taken as 1000, we learn that 11 of the 29 boroughs had in 1901–05 an average mortality in excess of the county rate. In the year 1906 this was again the case, the rates in certain boroughs being above the county rates in some instances by from 20 to 70 per cent. In the years 1901–05 pulmonary tuberculosis was most fatal in Holborn, where the corrected rate was 2·58 per 1000, in Southwark 2·40, and in Bethnal Green 2·28 per 1000. As in previous years, Hampstead appears most favourably in the list, the rate there being only 0·82 per 1000, as compared with 1·57 in the county of London.

With respect to the influence of overcrowding in determining the relative fatality from pulmonary tuberculosis, there is a highly instructive table in the present volume, the like of which we should like to see included in the reports of medical officers of health outside the metropolis. This table shows that after making due allowance for age differences among the living, the mortality from pulmonary tuberculosis varies from a rate of 1·1 per 1000 in the least overcrowded sanitary areas to precisely double that rate in the areas where the overcrowding exceeds 27·5 per cent.

Elsewhere in the report comparison is instituted between the death-rate from pulmonary tuberculosis in the new model dwellings built by the County Council and that in London generally. In these dwellings at any rate, it may be presumed that the Council has taken adequate precautions against overcrowding. The figures now available are for one year only and relate to the mortality among not more than 21,000 tenants. Still, as far as they go, they are encouraging, for they indicate a reduction in the mortality from pulmonary tuberculosis of 14 per cent. as compared with that of other dwellers in the metropolis.

As regards statistics of mortality in different social strata of the population we have before commented on the advantage possessed by portions of Ireland over other parts of the United Kingdom. Sir Robert Matheson, the Registrar-General for Ireland, has, for many past years, published rates of mortality among different grades of the Irish people, and, as might be expected, these rates show remarkable disparity. Sir Shirley Murphy evidently appreciates the need for similar means of distinguishing between class and class in London; for, in the present report he presents a table showing the degree in which the dwellers in common lodging houses suffer from pulmonary tuberculosis, in contrast with other inhabitants of the metropolis. Since the year 1902 the administrative control of London common lodging houses has devolved on the County Council; and the medical officer of health has taken pains to inform himself as nearly as practicable concerning the effect of residence in such dwellings on the health of the lodgers. But in this attempt he is met by the difficulty that the mortality from separate diseases cannot satisfactorily be presented in terms of population, because of the extreme variations in the numbers living, from time to time; he therefore prefers to rely on the deaths from specified diseases in proportion to the deaths from all causes. From a table in which this alternative has been adopted we learn that of the total deaths of inmates of common lodging-houses, at ages 25–35 years, 54 per cent. were attributed to pulmonary tuberculosis, as against 40 per cent. in London generally; at ages 35–45 the percentages were 53 and 31 respectively; at ages 45–55 they were 48 and 23; and at ages 55–65 they were 31 and 12; whilst at ages above 65 the proportions were 11 per cent. in common lodging-houses as against 3 per cent. elsewhere in London.

As regards measures either in operation or in contemplation for limiting the prevalence of tuberculous disease, this report contains a section that will amply repay perusal. Abundant evidence is produced to show that there is a growing demand for really effectual methods of dealing with the disease over and above the ordinary expedients of isolation and disinfection usually adopted for the suppression of the acute infectious disorders. A system of voluntary notification of pulmonary tuberculosis obtains in many of the sanitary districts and this is generally followed by disinfection and by visits to the house, with advice as to precautions to be taken by the sufferer. In a few instances compulsory notification, with compulsory removal of advanced cases, has been advocated by medical officers of health. But on this point Sir Shirley Murphy insists, in our opinion, most justly, that the "latter view is more advanced than that which is actually held. It becomes therefore very necessary to examine the grounds for such a demand, which, if fully acted upon, would deprive of their liberty many thousands of persons in London." The current theories concerning infection on the one hand and heredity on the other which have been advanced to account for the incidence of pulmonary tuberculosis are ably discussed in the report. Reference is made to the opinions of Professor Karl Pearson who has specially studied this subject, utilising for this purpose the facts relating to 384 families in which cases of pulmonary tuberculosis had occurred. Professor Pearson found that the number of tuberculous married persons who had a tuberculous mate was not sufficiently great to require an appeal to infection in order to account for this number; but what he did find was that the condition which governed the liability to attack was heredity of the diathesis of pulmonary tuberculosis. "A theory of infection," he writes, "does not account for the facts. I am inclined to think that the risks run, especially under urban conditions, are, for tuberculosis as for a number of other infectious diseases, so great that the constitution or diathesis means almost everything for the individual whose life cannot be spent in self-protection; I feel fairly certain that for the artizan class the inheritance factor is far more important than the infection factor, because in a very large proportion of cases it does not lie in the power of the individual to maintain, in the stress of urban life, a wholly safe environment."

The passage in which Sir Shirley Murphy summarises his own conclusions on this important subject is worthy of

[1] The first notice of this report appeared in THE LANCET of Jan. 25th, 1908, p. 250.

quotation here. He says: "The acceptance of the view that under conditions which exist in urban populations, the susceptibility of the individual, and not the exposure to known cases of phthisis, govern the probability of attack does not of itself negative the theory of the infectivity of tuberculous phthisis. It does, however, raise serious question as to the practicability of reducing the rate of phthisis mortality by efforts to segregate persons suffering from this disease, even if the theory of infection from person to person is accepted as the common way in which susceptible persons are infected. However this may be, it may undoubtedly be stated that our knowledge of the subject at the present time is insufficient to justify the introduction into London of a system of compulsory segregation."

The London statistics of mortality from cancer or malignant disease agree generally with those of other parts of the United Kingdom in that they indicate a continuously increasing fatality from this terrible malady, from the earliest recorded dates to the present time. From a table in the report it appears that whilst in 1851–60 the average loss of life in the metropolis from malignant diseases was equal to 42 in each 100,000 of the population at all ages and of both sexes, in the year 1906 the proportion had risen to 98 in the same number living.

In order to obtain precise information concerning the local incidence of cancer factors have been calculated for correcting as far as possible the rates of mortality for the several sanitary areas of the metropolis; but owing to changes in these areas caused by the London Government Act of 1899 the death-rates since 1900 are alone available for comparative purposes. The average death-rates from cancer in the years 1901–05 are presented in another table which shows that the highest mortality (1·10 per 1000) occurred in the City of London, the lowest rates obtaining in Finsbury and in Greenwich, where they were 0·84 per 1000. In yet another table an attempt is made to ascertain the relation of overcrowding to cancer incidence in various districts of London, the object being to compare the death-rates of sections of the people differently circumstanced socially. But although the numbers dealt with are considerable the differences in the local death-rates, compared according to this method, are less pronounced than might have been expected.

Puerperal fever, under which name are included the deaths from pyæmia and septicæmia occurring in connexion with the puerperal state, was fatal to 187 women in the course of the year 1906, the number notified as suffering from affections of this nature being 298. The subject of puerperal sepsis has come to assume additional interest because of the steps that are now practicable under the Midwives Act of 1902 for diminishing the perils of childbirth. From data in the report it appears that in the year 1906 the number of midwives on the London registers was 2350, less than 8 per cent. of whom are returned as "uncertified." The actual proportion, however, must be greater than this, for the majority of enrolled midwives are not practising. Many of them are engaged as monthly nurses and many more are on the staffs of hospitals. Interesting details are given in the report as to the number of female medical inspectors appointed under the Midwives Act and also as to the duties which they perform. In the administration of this Act in London the authorities appear to have been assiduous.

All cases of puerperal fever where a midwife is known to have been in attendance are investigated. For this purpose early intimation of all cases of puerperal fever is received by telephone from the Metropolitan Asylums Board and weekly lists of deaths from puerperal sepsis are obtained from the Registrar-General. Of the 187 deaths registered as from puerperal fever 68 referred to cases that had not been notified as suffering from that disease; it would therefore appear probable that in spite of the compulsory nature of the Notification Act many cases of puerperal fever, in its wider sense, which do not prove fatal, are never officially notified. Incidentally the investigations under the Act have served to ascertain the proportion of stillbirths to total children born. For the metropolis this is seen to average from 3 to 4 per cent.

(To be continued.)

DEATH OF A CENTENARIAN.—Mrs. Honor Coleman, who died recently at Yatton, Somersetshire, celebrated the 106th anniversary of her birth on Feb. 22nd, 1907. The old lady's mother and grandmother were also centenarians.

NOTES UPON HEALTH RESORTS.

ALGECIRAS AND ITS CLIMATE.

BY A. W. W. DOWDING, M.D. DURH., M.R.C.P. EDIN.

THE Algeciras-Gibraltar Railway, which has its sea terminus at the quaint old town of Algeciras, Spain, right opposite Gibraltar, and its capital entirely English, has been the means of opening up the neighbouring district not only by its railway and steamer communications but also by means of the new Hotel Reina Cristina, Algeciras, which was built in 1901 and has since been enlarged. The district itself for its climate, scenery, and objects of archæological interest is difficult to surpass, and within three hours by rail is the inland town of Ronda, situated on a lofty plateau about 2400 feet above the sea level and practically surrounded at a distance with a panorama of high mountains. Here the air is very dry and bracing. And the company is building another hotel in conjunction with the Reina Cristina which will be opened shortly.

As regards the climate of Algeciras—the most southerly health resort in Europe—it is milder, warmer, and more equable than that of the Riviera, Algiers, and Morocco. In north latitude 36° 6′ 20″ and in west longitude 5° 20′ 53″ it is practically in the line of latitude with Algiers and Malta and is about 4° north of Madeira and further south than the Riviera. Beautifully situated on the Bay of Gibraltar, the surrounding country is undulating and the soil is light and porous so that the roads soon dry up after rain. Being located near the junction of the Mediterranean and the Atlantic Ocean at a point where two great continents meet it naturally follows that its climate must be influenced more or less by each of these elements. The water-supply is excellent, and Algeciras has the reputation of being one of the most healthy towns in Spain.

The following are certain observations taken at an altitude of about 52 feet above the sea level and for an average of five years:—

Mean annual barometric pressure	29·987
Mean pressure for the six months (October to April)	29·99
Mean annual temperature in the shade	64·6° Fahr.
Mean shade temperature for the six months (October to April)	59·1° ,,
Absolute minimum temperature	36·8° ,,
Mean annual daily range of temperature	12·8° ,,
Mean relative humidity of the air	70 per cent.
Annual average rainfall	32 22 inches.
Average number of days when fog exists	1
Average number of days when rain falls	74

Both snow and frost are alien to Algeciras and its immediate neighbourhood. At Algeciras, and indeed all along the coast for many miles on either side, cold weather is a thing unknown and it is the experience of winter visitors who have tried the Riviera, Algiers, and other places on the Mediterranean that it is the warmest and most equable of the lot. East and west are the prevailing winds, with slight variations. From the W.S.W. it is protected by a range of beautiful hills commonly called the "Palm Mountains." The E.S.E. wind comes right across the Mediterranean from Gibraltar but it is only prevelant in the summer. During the winter months the winds are generally from the W.S.W. or W.N.W. and for the remainder of the year, chiefly in summer and autumn, the E.S.E. and E.N.E. winds predominate. Gales are of rare occurrence and taking the whole year through the number of stormy days can be counted on one's fingers. In fact, with rare exceptions the winds are always light and warm.

The rainfall for a warm climate is a moderate one and generally occurs at intervals between the months of September and April inclusive, so that practically from May to August the weather is perfectly dry. The average rainfall throughout the year is 32 inches, but as sometimes several inches fall in 24 hours it will be understood that the rain is anything but continuous, and, another thing, as the greater proportion descends in the night time the days as a rule are clear and bright. The consequence is that during what is commonly called the wet season the sun comes out during the day and the sky generally is cloudless. It is very seldom, therefore, that the weather keeps people indoors. Indeed, for the last few years the scantiness of rain has been the great drawback. This fact also accounts for

the uncommonly large amount of sunshine which is one of the outstanding features of the climate of Algeciras and its neighbourhood. Taking the number of hours of sunshine per annum it averages 3000, or fully 1000 more than can be practically had at the very best English health resorts. All this is very important to visitors who have to leave their own countries to escape the rigours of the winter and who seek after warmth and sunshine. The best months for invalids are from October to June. The mean winter temperature is 55° F. in the shade. The air is dry and bracing and there are no sudden changes of temperature.

The English Hotel Reina Cristina, with its 22 acres of beautiful grounds outside the town, is an ideal winter place for delicate people and invalids able to move about. There are also the Hotel Anglo Hispano and smaller Spanish hotels and a few furnished houses and flats to be had for the season, but there is a lack of good accommodation for people of moderate means. All kinds of outdoor sports and amusements can be obtained in the neighbourhood, but except at Gibraltar one has to be satisfied with a quiet country life free from excitement.

From my experience of Algeciras since 1904 I am convinced that in many respects its climate is unequalled in Europe. I have noted marked improvement in cases of neuritis, insomnia, and other nerve troubles. Also gouty, cardiac, bronchial, and kidney cases as a rule are greatly benefited by residence in Algeciras. It is excellent also simply for a rest cure. Algeciras is not only a health resort but it is a convenient centre for visiting the most important and interesting places in Andalusia and Morocco, such as Ronda, Granada, Seville, and Cordoba on the one hand, and Tangier and Ceuta on the other. A splendid service of passenger steamers ply between it and Gibraltar daily (six miles). Gibraltar as a sea port if nothing more is one of the most convenient in Europe for visitors, as the liners of the P. and O., Orient, Norddeutscher Lloyd, White Star, Dominion, Cunard, and other great shipping companies call weekly, both on their outward and inward cruises, so that passengers can get to or from England and America on the one hand, and from and to Algiers, Marseilles, Genoa, Naples, and Egypt on the other, with the greatest ease and comfort. Visitors can either find their way to Algeciras overland by the express trains or by the P. and O. and other steamers in about four days from London and three days from Southampton.

Algeciras.

MEDICINE AND THE LAW.

Kissing the Book.

IN a recent appeal to the Divisional Court against a judgment delivered in the Brompton county court a new and curious point was raised with regard to the taking of the oath in the usual form by kissing a Testament. For this reason we refer again to a topic which has been so much discussed already in our columns and elsewhere. A medical man called as a witness had refused on sanitary grounds to kiss the Testament provided and had also objected to taking the oath in the Scottish form on the ground that he was a member of the Church of England. He had, however, produced a Testament on which he was willing to be sworn but the county-court judge had refused to allow him to avail himself of it, saying that he would not permit the oath to be taken upon any book except the one in ordinary use in the court. As a result the witness was not sworn and his evidence was lost to the party on whose behalf he had been called. Argument took place on the question whether the judge had decided wrongly in this matter and it was urged on behalf of the appellant that there was no suggestion that the Testament produced was not a perfect copy. This was in reply to a suggestion by Mr. Justice Phillimore that there were persons who would consider an oath less binding if it was taken upon a Testament not complete in every respect or in some other irregular manner. It was further argued by counsel that all that was necessary was that the judge should be satisfied that the Testament was one regarded by the witness as imparting a binding nature to his oath and that there was no legal obligation to use a volume provided by the court for the purpose and no other. Mr. Justice Phillimore is reported as having said that there could not be a new trial "because of a silly wrangle on the part of the doctor." It was his view that the question involved a matter of the discipline of the court, although the county court judge might have been wiser to admit the evidence, and the appeal was eventually dismissed. The objection raised to the Scottish form, which is to be administered without question to any who may prefer it, is not very easy to follow, but at the same time it seems highly unreasonable that a witness in the position of a medical practitioner who chooses to provide his own Testament should not be allowed to be sworn upon it. To suggest that he would be likely to commit perjury, solacing his conscience with the knowledge that the volume was defective and so was not a Testament, is little short of absurd.

Is a Master Liable for Medical Attendance on Servants?

The question of the liability of a master for medical attendance on his servants is one of considerable importance to the medical profession. A master is not bound to provide medical assistance for his servant but the obligation (if any) must arise from contract; nor will such a contract be implied simply because the servant is living under the master's roof, nor because the illness of the servant has arisen from an accident met with in the master's service. Thus where a servant who had been hired at the yearly wages of £3 10*s.* and victuals had his arm broken while driving his master's team, and was carried to his mother's house and attended by his master's surgeon, who was accidentally passing such mother's house at the time and was called in, it was held in Wennall *v.* Adney (3 B. & P. 247) that the surgeon could recover nothing from the master on an implied promise to pay for the attendance. Where such accidents take place the parish officers are bound to assist and the law will so far raise an implied contract against them as to enable any person who affords that immediate assistance which the necessity of the case usually requires to recover against them the amount of money expended. So in all cases where a servant falls ill and is unable to pay for necessary medical assistance the parish is bound to supply such assistance, although the servant may not have previously to his illness received or stood in need of parish relief. In Newly *v.* Wiltshire (2 Esp. 739) the defendant, a farmer, sent his wagon to Cambridge, and in returning a boy who had been sent with it fell from the shafts and broke his leg. The boy could not be removed out of the parish where the accident happened on account of the danger which it might occasion. The plaintiff was overseer of the parish where the accident happened and took the charge of getting the boy cured upon himself. It was necessary to amputate the leg and the overseer expended in and about the cure £32. Afterwards the boy served the remainder of the year with his master and the action was brought to recover from the defendant the expenses of the boy's cure. Lord Mansfield, Chief Justice, said: "I do not applaud the humanity of the master in this case; he does not inquire after his servant for six weeks after the accident; and when he does he passes on the other side. I think, in general, a master ought to maintain his servants and take care of them in sickness; but the question now is, What is the law? There is, in point of law, no action against the master to compel him to repay the parish for the cure of his servant; no authority whatsoever has been cited; and it seems to me that it cannot be. The parish is bound to take care of accidents." And Mr. Justice Heath, in Wennall *v.* Adney, said: "I am perfectly sure it is more for the advantage of servants that the legal claim for such assistances should be against the parish officers rather than against their masters, for the situation of many masters who are obliged to keep servants is not such as to enable them to afford sufficient assistance in cases of serious illness." Where, however, a father left his children under the care of servants, in a house at some distance from his own, and one of such servants was attacked by illness, which was caused by suckling one of the children, and called in a medical man who was not known to her master to attend her, and where the master's wife knew of such attendance and expressed no disapprobation, and, after this, the master sent his own surgeon to see such servant, it was held in Cooper *v.* Phillips (4 C. & P. 584) that the surgeon who had been originally called in by the servant could recover the amount of his bill from the master. A master is, however, bound to provide an apprentice with proper medicines and medical attendance (R. *v.* Smith, 8 C. & P. 153). It is not incident to the employment of a guard or the superintendent of a station of a railway to enter into a contract with a surgeon to attend a passenger injured by an accident

quotation here. He says: "The acceptance of the view that under conditions which exist in urban populations, the susceptibility of the individual, and not the exposure to known cases of phthisis, govern the probability of attack does not of itself negative the theory of the infectivity of tuberculous phthisis. It does, however, raise serious question as to the practicability of reducing the rate of phthisis mortality by efforts to segregate persons suffering from this disease, even if the theory of infection from person to person is accepted as the common way in which susceptible persons are infected. However this may be, it may undoubtedly be stated that our knowledge of the subject at the present time is insufficient to justify the introduction into London of a system of compulsory segregation."

The London statistics of mortality from cancer or malignant disease agree generally with those of other parts of the United Kingdom in that they indicate a continuously increasing fatality from this terrible malady, from the earliest recorded dates to the present time. From a table in the report it appears that whilst in 1851–60 the average loss of life in the metropolis from malignant diseases was equal to 42 in each 100,000 of the population at all ages and of both sexes, in the year 1906 the proportion had risen to 98 in the same number living.

In order to obtain precise information concerning the local incidence of cancer factors have been calculated for correcting as far as possible the rates of mortality for the several sanitary areas of the metropolis; but owing to changes in these areas caused by the London Government Act of 1899 the death-rates since 1900 are alone available for comparative purposes. The average death-rates from cancer in the years 1901–05 are presented in another table which shows that the highest mortality (1·10 per 1000) occurred in the City of London, the lowest rates obtaining in Finsbury and in Greenwich, where they were 0·84 per 1000. In yet another table an attempt is made to ascertain the relation of overcrowding to cancer incidence in various districts of London, the object being to compare the death-rates of sections of the people differently circumstanced socially. But although the numbers dealt with are considerable the differences in the local death-rates, compared according to this method, are less pronounced than might have been expected.

Puerperal fever, under which name are included the deaths from pyæmia and septicæmia occurring in connexion with the puerperal state, was fatal to 187 women in the course of the year 1906, the number notified as suffering from affections of this nature being 293. The subject of puerperal sepsis has come to assume additional interest because of the steps that are now practicable under the Midwives Act of 1902 for diminishing the perils of childbirth. From data in the report it appears that in the year 1906 the number of midwives on the London registers was 2350, less than 8 per cent. of whom are returned as "uncertified." The actual proportion, however, must be greater than this, for the majority of enrolled midwives are not practising. Many of them are engaged as monthly nurses and many more are on the staffs of hospitals. Interesting details are given in the report as to the number of female medical inspectors appointed under the Midwives Act and also as to the duties which they perform. In the administration of this Act in London the authorities appear to have been assiduous.

All cases of puerperal fever where a midwife is known to have been in attendance are investigated. For this purpose early intimation of all cases of puerperal fever is received by telephone from the Metropolitan Asylums Board and weekly lists of deaths from puerperal sepsis are obtained from the Registrar-General. Of the 187 deaths registered as from puerperal fever 68 referred to cases that had not been notified as suffering from that disease; it would therefore appear probable that in spite of the compulsory nature of the Notification Act many cases of puerperal fever, in its wider sense, which do not prove fatal, are never officially notified. Incidentally the investigations under the Act have served to ascertain the proportion of stillbirths to total children born. For the metropolis this is seen to average from 3 to 4 per cent.

(To be continued.)

DEATH OF A CENTENARIAN.—Mrs. Honor Coleman, who died recently at Yatton, Somersetshire, celebrated the 106th anniversary of her birth on Feb. 22nd, 1907. The old lady's mother and grandmother were also centenarians.

NOTES UPON HEALTH RESORTS.

ALGECIRAS AND ITS CLIMATE.

BY A. W. W. DOWDING, M.D. DURH., M.R.C.P. EDIN.

THE Algeciras-Gibraltar Railway, which has its sea terminus at the quaint old town of Algeciras, Spain, right opposite Gibraltar, and its capital entirely English, has been the means of opening up the neighbouring district not only by its railway and steamer communications but also by means of the new Hotel Reina Cristina, Algeciras, which was built in 1901 and has since been enlarged. The district itself for its climate, scenery, and objects of archæological interest is difficult to surpass, and within three hours by rail is the inland town of Ronda, situated on a lofty plateau about 2400 feet above the sea level and practically surrounded at a distance with a panorama of high mountains. Here the air is very dry and bracing. And the company is building another hotel in conjunction with the Reina Cristina which will be opened shortly.

As regards the climate of Algeciras—the most southerly health resort in Europe—it is milder, warmer, and more equable than that of the Riviera, Algiers, and Morocco. In north latitude 36° 6′ 20″ and in west longitude 5° 20′ 53″ it is practically in the line of latitude with Algiers and Malta and is about 4° north of Madeira and further south than the Riviera. Beautifully situated on the Bay of Gibraltar, the surrounding country is undulating and the soil is light and porous so that the roads soon dry up after rain. Being located near the junction of the Mediterranean and the Atlantic Ocean at a point where two great continents meet it naturally follows that its climate must be influenced more or less by each of these elements. The water-supply is excellent, and Algeciras has the reputation of being one of the most healthy towns in Spain.

The following are certain observations taken at an altitude of about 52 feet above the sea level and for an average of five years:—

Mean annual barometric pressure	29·937
Mean pressure for the six months (October to April) ...	29·99
Mean annual temperature in the shade...	64·6° Fahr.
Mean shade temperature for the six months (October to April)	59·1° ,,
Absolute minimum temperature	36·8° ,,
Mean annual daily range of temperature	12·8° ,,
Mean relative humidity of the air	70 per cent.
Annual average rainfall	32·22 inches.
Average number of days when fog exists	1
Average number of days when rain falls	74

Both snow and frost are alien to Algeciras and its immediate neighbourhood. At Algeciras, and indeed all along the coast for many miles on either side, cold weather is a thing unknown and it is the experience of winter visitors who have tried the Riviera, Algiers, and other places on the Mediterranean that it is the warmest and most equable of the lot. East and west are the prevailing winds, with slight variations. From the W.S.W. it is protected by a range of beautiful hills commonly called the "Palm Mountains." The E.S.E. wind comes right across the Mediterranean from Gibraltar but it is only prevelant in the summer. During the winter months the winds are generally from the W.S.W. or W.N.W. and for the remainder of the year, chiefly in summer and autumn, the E.S.E. and E.N.E. winds predominate. Gales are of rare occurrence and taking the whole year through the number of stormy days can be counted on one's fingers. In fact, with rare exceptions the winds are always light and warm.

The rainfall for a warm climate is a moderate one and generally occurs at intervals between the months of September and April inclusive, so that practically from May to August the weather is perfectly dry. The average rainfall throughout the year is 32 inches, but as sometimes several inches fall in 24 hours it will be understood that the rain is anything but continuous, and, another thing, as the greater proportion descends in the night time the days as a rule are clear and bright. The consequence is that during what is commonly called the wet season the sun comes out during the day and the sky generally is cloudless. It is very seldom, therefore, that the weather keeps people indoors. Indeed, for the last few years the scantiness of rain has been the great drawback. This fact also accounts for

the uncommonly large amount of sunshine which is one of the outstanding features of the climate of Algeciras and its neighbourhood. Taking the number of hours of sunshine per annum it averages 3000, or fully 1000 more than can be practically had at the very best English health resorts. All this is very important to visitors who have to leave their own countries to escape the rigours of the winter and who seek after warmth and sunshine. The best months for invalids are from October to June. The mean winter temperature is 55° F. in the shade. The air is dry and bracing and there are no sudden changes of temperature.

The English Hotel Reina Cristina, with its 22 acres of beautiful grounds outside the town, is an ideal winter place for delicate people and invalids able to move about. There are also the Hotel Anglo Hispano and smaller Spanish hotels and a few furnished houses and flats to be had for the season, but there is a lack of good accommodation for people of moderate means. All kinds of outdoor sports and amusements can be obtained in the neighbourhood, but except at Gibraltar one has to be satisfied with a quiet country life free from excitement.

From my experience of Algeciras since 1904 I am convinced that in many respects its climate is unequalled in Europe. I have noted marked improvement in cases of neuritis, insomnia, and other nerve troubles. Also gouty, cardiac, bronchial, and kidney cases as a rule are greatly benefited by residence in Algeciras. It is excellent also simply for a rest cure. Algeciras is not only a health resort but it is a convenient centre for visiting the most important and interesting places in Andalusia and Morocco, such as Ronda, Granada, Seville, and Cordoba on the one hand, and Tangier and Ceuta on the other. A splendid service of passenger steamers ply between it and Gibraltar daily (six miles). Gibraltar as a sea port if nothing more is one of the most convenient in Europe for visitors, as the liners of the P. and O., Orient, Norddeutscher Lloyd, White Star, Dominion, Cunard, and other great shipping companies call weekly, both on their outward and inward cruises, so that passengers can get to or from England and America on the one hand, and from and to Algiers, Marseilles, Genoa, Naples, and Egypt on the other, with the greatest ease and comfort. Visitors can either find their way to Algeciras overland by the express trains or by the P. and O. and other steamers in about four days from London and three days from Southampton.

Algeciras.

MEDICINE AND THE LAW.

Kissing the Book.

IN a recent appeal to the Divisional Court against a judgment delivered in the Brompton county court a new and curious point was raised with regard to the taking of the oath in the usual form by kissing a Testament. For this reason we refer again to a topic which has been so much discussed already in our columns and elsewhere. A medical man called as a witness had refused on sanitary grounds to kiss the Testament provided and had also objected to taking the oath in the Scottish form on the ground that he was a member of the Church of England. He had, however, produced a Testament on which he was willing to be sworn but the county-court judge had refused to allow him to avail himself of it, saying that he would not permit the oath to be taken upon any book except the one in ordinary use in the court. As a result the witness was not sworn and his evidence was lost to the party on whose behalf he had been called. Argument took place on the question whether the judge had decided wrongly in this matter and it was urged on behalf of the appellant that there was no suggestion that the Testament produced was not a perfect copy. This was in reply to a suggestion by Mr. Justice Phillimore that there were persons who would consider an oath less binding if it was taken upon a Testament not complete in every respect or in some other irregular manner. It was further argued by counsel that all that was necessary was that the judge should be satisfied that the Testament was one regarded by the witness as imparting a binding nature to his oath and that there was no legal obligation to use a volume provided by the court for the purpose and no other. Mr. Justice Phillimore is reported as having said that there could not be a new trial "because of a silly wrangle on the part of the doctor." It was his view that the question involved a matter of the discipline of the court, although the county court judge might have been wiser to admit the evidence, and the appeal was eventually dismissed. The objection raised to the Scottish form, which is to be administered without question to any who may prefer it, is not very easy to follow, but at the same time it seems highly unreasonable that a witness in the position of a medical practitioner who chooses to provide his own Testament should not be allowed to be sworn upon it. To suggest that he would be likely to commit perjury, solacing his conscience with the knowledge that the volume was defective and so was not a Testament, is little short of absurd.

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on such railway, and the railway company are not therefore liable to the surgeon for services rendered to such passenger under a contract so entered into (Cox *v.* The Midland Railway Co., 18 L. J. Ex., 65). Nor does the new Workmen's Compensation Act make the master liable for medical attendance on a servant in case of accident. Of course, some masters insure their servants in such a way as to cover medical expenses up to £5 but the law does not impose any obligation on them to do so. Suppose a caretaker of a country house falls downstairs in the absence of the family and is laid up for some weeks with concussion of the brain. A medical man is called in by one of the servants to attend her. Is the master liable? The answer is "No." There is no doubt that as time goes on the provisions of the Workmen's Compensation Act will be extended to cover medical expenses. If the principle of compensation for injuries is once admitted it seems absurd to limit the compensation to particular employments, as was the case before 1906, and if compensation has now to be paid to all servants for accidents it seems anomalous not to make the master liable for medical expenses. In the above case supposed the caretaker might have become unconscious and seriously ill for four or five days, but if she recovered and was able to do her work again by the thirteenth day she would only be entitled to recover compensation for one week which in no case can exceed £1 a week and yet the medical expenses she had to pay may have far exceeded that amount.

The Health and Safety of Young Children.

Several cases affecting the health and the lives of little children have recently been reported in the newspapers showing a strong intention on the part of those administering the law to protect this helpless section of the community from the various dangers always threatening it. In the recent bitterly cold weather Mr. Denman had before him at Marlborough-street a man, 30 years of age, who was charged with exposing his son, aged four and a half years, in a way likely to cause injury to his health. The child was placed on an organ which his father and another man were wheeling about for the purpose of obtaining money. Mr. Denman called attention to the number of children thus made use of in severe weather for the iniquitous purpose of extracting alms from kind-hearted but mistaken persons and to the law which enabled him to punish the conduct of adults who so subjected them to danger and suffering. He expressed his determination to make the case an example and a warning to parents and others and sent the defendant to prison for a month with hard labour. A street organ formed the means by which the male defendant in another case "earned" his living. He and his wife were charged with neglecting four children whose ages ranged from six years to 14 months. Their plan was not to take them out in the streets but to leave them locked up without food, fire, or sufficient clothing. A story was told apparently involving conjugal infidelity on the part of both parents, and there was an allegation of fear of her husband on the part of the wife, but the learned magistrate looked on the cruelty proved as sufficiently serious to warrant the infliction of sentences of six months' imprisonment on the man and of four months on the woman. At Bradford James Taylor, a labourer in the employment of the corporation, had beaten with shocking brutality his little girl, seven years of age, and his son, 13 years of age, besides nearly strangling the latter. He received sentences amounting to 12 months' hard labour, accompanied by the expression of the opinion of the chairman of the bench that he was a dastardly blackguard. In the first case mentioned above the police are to be congratulated upon the vigilance of a constable; in the second and third the National Society for the Prevention of Cruelty to Children conducted the prosecution and obtained well-deserved success. Among recent inquests showing the dangers which beset children may be noted one at St. Pancras at which it was proved that Daisy Bell, six years of age, owed her death to her flannelette nightdress catching fire at a grate not protected by any fireguard. Mr. W. Schröder, the coroner, called attention to the Bill which proposes to make the omission to provide a fireguard punishable as criminal neglect where a child has died in consequence and expressed a hope that the measure might be reintroduced with success during the coming session. At another inquest held at Kingston it was proved that a little girl, aged eight weeks, had been fed on boiled bread when her mother found that the child would not take the breast. The body of the infant thus starved to death weighed 5½ pounds and the coroner, Mr. Michael H. Taylor, after referring to the number of deaths of children from malnutrition as "appalling," expressed the wish that girls might be taught at school more that would be useful to them in domestic life, even if they learnt less about other subjects of a more strictly scholastic character. While the sympathy of all is rightly invoked for children wantonly neglected and ill-treated allusion may be made to the observations of Sir Horatio Davies uttered recently at the Guildhall police court in connexion with the generous efforts of strangers to aid children and others whose cases are made prominent through the evidence of their destitution given in the law courts. In thanking the press and the public on behalf of a case of genuine poverty and suffering, he pointed out with reference to it and to that of several children then before him who had been found wandering in the City that there was a risk of encouraging evilly disposed parents to send out their children to beg with a view to their being brought to the police court and so exciting sympathy. Two other recent cases serve to illustrate the difficulties against which the National Society for the Prevention of Cruelty to Children and those who sympathise with its efforts have to contend where deliberate cruelty can hardly be attributed to the parents but rather physical and mental incapacity to fulfil their duties. In the first instance the mother of two children of the respective ages of six and three years was said to be blind and quite incapable of cleansing or taking care of them. She spent her days sitting about in the streets, presumably in order to excite sympathy and to collect alms, and it was further stated that her husband, a man 62 years of age, ill-treated her and refused to look after his offspring. Summoned at the North London police court he was sentenced to three months' hard labour for his neglect. In the other case an inquest was held upon an infant, three months old, one of twins, who, according to the evidence of Dr. Henry S. Souttar, house physician at the London Hospital, had been starved to death by the mother's neglect. The other child present at the inquest in his mother's arms was shown to the coroner, Mr. Wynne Baxter, who expressed horror at his condition, and finding the mother's answers to his questions unsatisfactory, pursued his inquiries with regard to her until he discovered that she had recently been an inmate of Claybury Asylum. He expressed the opinion that she was on the borderland between sanity and insanity and expressed his intention of communicating with the National Society for the Prevention of Cruelty to Children.

FIVE YEARS' EXPERIENCE OF A RECEPTION HOUSE FOR RECENT CASES OF INSANITY.

BY HAMILTON C. MARR, M.D. GLASG., F.F.P.S. GLASG.,
MEDICAL SUPERINTENDENT, GLASGOW DISTRICT ASYLUM, WOODILEE, LENZIE; MACKINTOSH LECTURER ON INSANITY, ST. MUNGO'S COLLEGE, GLASGOW.

THE question of the provision of increased accommodation at Woodilee Asylum was brought before the Glasgow District Lunacy Board in the latter part of the year 1900. In a report submitted to the board it was urged, among other considerations, that the required accommodation should embrace (1) a reception house; (2) a sanatorium for the consumptive insane; and (3) a nurses' home. This accommodation the board decided to provide. The reception house and sanatorium, which are similar in design, were opened for the admission of patients on Dec. 25th, 1902 and the nurses' home for 110 nurses was opened on Sept. 15th, 1904. Of the two former buildings I confine my description to the reception house as my main object in writing this paper is to give an account of the work that has been and is being done in it.

The reception house is situated about a quarter of a mile from the main administrative centre and is about 200 feet above sea level. It is, in some respects, unique, and has been the object of much interest during the five years in which it has been in operation. It presents those special features: (1) its construction is that of an ordinary hospital; (2) the provision of verandahs permits of the advantages of the open-air treatment; (3) all newly admitted patients are received into it; (4) patients whose illness is of short duration are allowed to remain and thus avoid the necessity of their being sent to the main asylum; and (5) the nursing is mainly done by women. The building consists of three

FIG. 1.—Reception house from south-east.

FIG. 2.—Open-air treatment of recent admissions.

blocks connected to an administrative building by open corridors. The blocks are one storey in height. The administrative department has a second storey containing bedrooms for nurses. The structure of the building is of corrugated iron and wood with a brick foundation; the inner walls are lined with "compo" boarding and are painted in distemper. The buildings are arranged one on each side and one behind the administrative block. All the wards face the south. The block behind the administrative department consists of two wards, each containing 12 beds. The total number of beds in the reception house is 62, and the cubic space allowed for each is 1500 cubic feet. The two other buildings have each one ward of 12 beds, one ward of six beds, and three single rooms. All the wards and rooms are provided with French windows and round the sides of each block there are verandahs. The beds can be wheeled from the wards to the verandahs with the greatest ease. Special provision has been made against fire. There are no fires in any of the wards and the heating is by water under a low pressure. Each ward has attached to it a bathroom and the necessary lavatory and water-closet accommodation. All the baths are so arranged that they can be used for the electrical treatment of the patients.

Reference has been made to the upper storey of the administrative block in which nurses' rooms are situated. The lower storey consists of a reception room, bathroom, and examination room for newly admitted cases, a room well furnished with the latest electric therapeutic apparatus, medical officers' quarters, kitchen, scullery, and dining hall for the staff. The verandahs, which are on the south, east, and west sides of the wards, were purposely introduced. For several years previous to the erection of the reception house and sanatorium newly admitted and phthisical cases were kept as much as possible in the open air with manifest advantage. It was thought that the extensive use of verandahs would, in the prevalent climatic conditions, afford the greatest facility for carrying out the open-air treatment. In practice this has actually occurred. Since the opening of the reception house the freest use of open-air treatment has been employed, not only for the consumptive but for all the newly admitted cases.

1425 patients (737 males and 688 females) have been admitted since the reception house was opened. It has not been necessary, on account of inability to deal with them, to admit any of the patients to the main asylum or remove them shortly after admission from the reception house to the asylum. This is more remarkable in view of the fact that the reception house does not possess the means of restraint or seclusion. No day nurse has keys, and the ward doors are open all day. The windows are open night and day. All patients on admission are bathed and subsequently examined by the medical officer and by medical clerks who are senior students of medicine. The patients are kept in bed until their condition has been diagnosed. As a rule they are then removed to the respective buildings in the asylum which are most suited for their condition; thus, an infirm or senile case is sent to the infirmary of the main asylum; the phthisical patient is sent to the sanatorium; chronic cases with fairly good physical health are, in the first place, admitted to the wards of the main asylum where they are placed at occupations suited for their condition both of body and mind, and from there they are drafted to the farms where, if they do well, they may ultimately be boarded out in the country. In this way, from the point of classification, the reception house has many advantages. From the points of diagnosis and treatment the conditions are, in my mind, ideal. No patient is removed until a complete report of the physical and mental characteristics of his case is detailed in the case-books of the asylum and the course of care and treatment decided. Those patients who have a likelihood of early recovery are detained in the reception house until convalescence has been established. The number of patients who have been discharged recovered in this way is 216 (108 males and 108 females). There are three bedrooms in each of the southern blocks which are used in several ways. Any patient who is very excited and restless is placed in one of them with a nurse. The beneficial effects of this treatment have often been noticed. The rooms are also used for the moribund, and when available one is given as a privilege to a convalescent. These rooms are bright and attractive and so situated as to give the maximum amount of peace and quietness.

The nursing of the patients is mainly done by women. I have seen nothing to prevent the whole of the nursing being done by women, but I think this would be objectionable because we have not yet reached, nor shall we probably reach, the stage when all the patients in asylums will be nursed by women. I think it only fair to give male attendants, who have charge of working parties of patients, all facilities in the early stages of their asylum career for acquiring a sound knowledge of their profession, and adapting this knowledge to the advantage of the patients of whom they may ultimately be in charge at outdoor work. In the reception house I have followed the practice I have been accustomed to in the asylum hospitals for men. Two male attendants are regularly on day duty and two on night duty. The object I have in mind is thus acquired. Many objections to women nursing male patients, especially newly admitted male patients, have been urged. None of these will be found in practice, though experience has taught me to exercise the greatest care in the selection of nurses to male patients. This has reference solely to matters of staff discipline and does not affect primarily the welfare of the patients.

The following are some extracts from reports by His Majesty's Commissioners in Lunacy:—

By Dr. JOHN FRASER. *5th May, 1903.*—The reception house produced a most favourable impression. Its arrangements are devoid of any asylum features, being identical in every respect with those of a small general hospital. It is staffed by nurses and is under the charge of a trained hospital nurse. Every patient on admission is treated in this house and the length of residence there depends on the mental condition. The comfort, rest, skilful treatment, and good nursing which newly admitted patients receive in this house are most favourable to the early recovery of the curable and to the well-being of those who are incurable.

14th April, 1904.—The reception house and convalescent wards constitute a valuable and important advance in the treatment and classification of the patients.

By Dr. JOHN MACPHERSON. *15th Nov., 1904.*—The arrangements for the reception, nursing, and medical treatment of newly admitted cases in this asylum are now probably unsurpassed by those in any institution in this country. The facilities for the clinical investigation and the medical treatment of nervous diseases have been provided by the district board with unstinted liberality. It is right to add that Dr. Marr and his large staff of assistants are sedulously observing facts and carefully recording them, and that a mass of clinical material of great value is being gradually accumulated in the medical records of the asylum.

Woodilee Asylum, Lenzie.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8781 births and 5680 deaths were registered during the week ending Feb. 1st. The mean annual rate of mortality in these towns, which had been equal to 20·0 and 18·5 in the two preceding weeks, further declined to 18·2 in the week under notice. During the first five weeks of the current quarter the annual death-rate in these towns averaged 18·6 per 1000; the rate during the same period in London did not exceed 18·0. The lowest annual death-rates in the 76 towns last week were 7·3 in Hornsey, 7·6 in Smethwick, 8·7 in Northampton, and 9·7 in Burton-on-Trent; the rates in the other towns ranged upwards to 26·4 in Newport, 26·7 in Liverpool, 27·7 in Merthyr Tydfil, and 29·3 in Warrington. The rate in London last week did not exceed 17·2. The 5680 deaths registered in the 76 towns during the week under notice showed a further decline of 69 from the numbers returned in the two preceding weeks, and included 441 which were referred to the principal epidemic diseases, against 501 and 409 in the two previous weeks; of these, 190 resulted from whooping-cough, 83 from measles, 66 from diphtheria, 46 from diarrhœa, 35 from scarlet fever, 21 from "fever" (principally enteric), but not one from small-pox. The deaths from these epidemic diseases in the 76 towns were equal to an annual rate of 1·4 per 1000, the rate from the same diseases in London being 1·3. No death from any of these epidemic diseases was registered last week in Wolverhampton, Huddersfield, Wigan, Hornsey, or in six other smaller towns; the annual death-rates from these diseases ranged upwards, however, in the other towns to 3·1 in Bootle, in Bolton, and in Aston Manor, and 7·3 in Warrington. The fatal cases of whooping-cough in the 76 towns, which had been 164 and 154 in the two preceding weeks, further rose last week to 190; they caused annual death-rates equal to 2·3 per 1000 in Bootle and in South Shields, 2·5 in Aston Manor and in Bolton, and 5·1 in Warrington. The 83 deaths from measles showed a further decline from the numbers in the three previous

weeks; this disease, however, caused a death-rate of 1·3 in Southampton, 1·7 in Barrow-in-Furness, 1·8 in York, and 2·0 in Willesden. The 66 deaths referred to diphtheria, on the other hand, showed an increase upon recent weekly numbers, and included 24 in London, three in Liverpool, three in Manchester, three in Reading, and two in Bury; these deaths in the two last mentioned were equal to an annual rate of 1·9 and 1·8 per 1000 respectively. The 46 deaths attributed to diarrhœa showed a slight increase, whereas the fatal cases of scarlet fever had slightly declined; the highest rates from scarlet fever last week were 1·1 in St. Helens and 1·5 in Warrington. The 21 deaths referred to "fever" were fewer than in any recent week; four, however, occurred in Birmingham, four in Manchester, and two in Portsmouth. The number of scarlet fever patients under treatment in the Metropolitan Asylums and London Fever Hospitals, which had steadily declined in the eight preceding weeks from 5581 to 4044, had further fallen to 3913 on Feb. 1st; during the week ending on that day 405 new cases were admitted to these hospitals, against 469 and 380 in the two previous weeks. The deaths in London referred to pneumonia and other diseases of the respiratory organs, which had been 499 and 455 in the two preceding weeks, further declined to 432 in the week under notice, but exceeded by 35 the corrected average number in the corresponding week of the five years 1903–07. The causes of 54, or 1·0 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Manchester, Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 45 smaller towns; and the causes of all but one of the 1584 deaths in London were duly certified. No fewer than ten of the causes of death in Birmingham, eight in Liverpool, four in South Shields, and three in Warrington were uncertified.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 24·3 and 22·2 per 1000 in the two preceding weeks, was 22·3 in the week ending Feb. 1st, and exceeded by 4·1 the mean rate during the same week in the 76 English towns. Among the eight Scotch towns the death-rates ranged from 17·6 and 17·9 in Dundee and Aberdeen to 23·9 in Glasgow and 25·4 in Greenock. The 785 deaths in these eight towns exceeded by three the number in the previous week, and included 123 which were referred to the principal epidemic diseases, against 158 and 142 in the two preceding weeks; of these, 64 resulted from measles, 26 from whooping-cough, 11 from diarrhœa, eight from "fever," seven from scarlet fever, six from diphtheria, and one from small-pox. These 123 deaths were equal to an annual rate of 3·5 per 1000, which exceeded by no less than 2·1 the mean rate last week from the same diseases in the 76 English towns. The fatal cases of measles, which had been 92 and 81 in the two preceding weeks, further declined last week to 64, of which 54 occurred in Glasgow, three in Edinburgh, three in Aberdeen, and two in Greenock. The 26 deaths from whooping-cough exceeded the number in the previous week by one, and included 12 in Glasgow, six in Leith, three in Edinburgh, three in Greenock, and two in Perth. The 11 deaths attributed to diarrhœa, of which seven were returned in Glasgow, were fewer than in any recent week. Five of the seven fatal cases of scarlet fever occurred in Glasgow. The eight deaths referred to "fever" included six certified as cerebro-spinal meningitis, and two as enteric fever; four were returned in Glasgow, and three in Edinburgh. The six fatal cases of diphtheria included two in Glasgow and two in Dundee. The death from small-pox was registered in Leith. The deaths referred to diseases of the respiratory organs in these eight towns, which had been 205, 199, and 178 in the three preceding weeks, were 179 in the week under notice, and exceeded by 53 the number from the same diseases in the corresponding week of last year. The causes of 22, or 2·8 per cent., of the deaths in these towns last week were not certified or not stated; in the 76 English towns the proportion of these uncertified deaths last week did not exceed 1·0 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 31·2 and 29·5, per 1000 in the two preceding weeks, further declined to 25·5 in the week ending Feb. 1st. During the first five weeks of the current quarter the death-rate in the city averaged 27·5 per 1000; the rate during the same period did not exceed 18·0 in London and 19·1 in Edinburgh. The 193 deaths of Dublin residents registered last week showed a further decline of 30 from the high numbers in the two previous weeks, and included six which were referred to the principal epidemic diseases, against three and nine in the two preceding weeks; these six deaths included two from measles, two from whooping-cough, two from diarrhœa, but not one either from scarlet fever, diphtheria, "fever," or small-pox. These six deaths from epidemic diseases were equal to an annual rate of 0·8 per 1000, the death-rate from the same diseases last week being 1·3 in London and 1·9 in Edinburgh. The 193 deaths in the city last week from all causes included 34 of infants under one year of age and 70 of persons aged upwards of 60 years; the deaths of elderly persons were again exceptionally numerous. Five inquest cases and three deaths from violence were registered during the week, and 75, or 38·8 per cent., of the deaths occurred in public institutions. The causes of 12, or no less than 6·2 per cent., of the deaths in the city last week were not certified; in London the causes of all but one of the 1584 deaths were duly certified, while in Edinburgh 3·3 per cent. of the causes were uncertified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: W. R. Center to the *President*, additional, for three months' course at West London Hospital; W. H. Pope to the *Philomel*, on commissioning; H. P. Jones to the *Topaze;* M. P. Jones to the *Attentive;* E. S. Tuck to the *Foresight*, on recommissioning; C. C. Macmillan, D.S.O., to Malta Hospital; and R. F. Clark to the *Victory*. Surgeons: G. M. Eastment to the *Wildfire:* and C. J. O'Connell to the *Magnificent*.

Surgeon J. H. Lightfoot has been promoted to the rank of Staff Surgeon, with seniority of May 15th, 1907.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel George Coutts retires on retired pay (dated Feb. 5th, 1908).

VOLUNTEER CORPS.

Royal Garrison Artillery (*Volunteers*): 2nd Devonshire: George Douglas Kettlewell to be Surgeon-Lieutenant (dated Jan. 1st, 1908). 1st Glamorganshire: Surgeon-Lieutenant F. G. Thomas to be Surgeon-Captain (dated Jan. 9th, 1908).

Rifle: 1st Volunteer Battalion, The Sherwood Foresters (Nottinghamshire and Derbyshire Regiment): Surgeon-Captain A. B. Chambers resigns his commission (dated Dec. 20th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Western Command: Manchester Companies: Honorary Lieutenant in the Army John William Smith (late Captain, Royal Army Medical Corps (Volunteers)), to be Captain (dated Nov. 21st, 1907). John O'Sullivan to be Lieutenant (dated Dec. 19th, 1907). Captain A. T. Lakin resigns his commission (dated Jan. 9th, 1908). Lieutenant W. E. Rothwell resigns his commission (dated Jan. 9th, 1908). Argyll and Sutherland Bearer Company: Lieutenant W. C. Murray to be Captain (dated Dec. 25th, 1907). Lancaster and Border Bearer Company: Surgeon-Captain Henry Dodgson, from the 3rd (Cumberland) Volunteer Battalion, The Border Regiment, to be Captain (dated Jan. 1st, 1908). Sussex and Kent Bearer Company: Lieutenant-Colonel and Honorary Colonel J. Turton is borne as supernumerary whilst holding the appointment of Brigade-Surgeon-Lieutenant-Colonel, Senior Medical Officer, Sussex and Kent Volunteer Infantry Brigade (dated Dec. 17th, 1907). Henry Arthur Clifton Harris to be Lieutenant (dated Dec. 17th, 1907).

DEATHS IN THE SERVICES.

On Jan. 25th, at the Royal Naval Hospital, Chatham, Staff Surgeon Harold Edgar Fryer, R.N. He joined the Royal Navy in 1897 as surgeon and was promoted to Staff Surgeon in 1905. The deceased, who was only 34 years of age, had been suffering from pulmonary tuberculosis.

INDIAN MEDICAL SERVICE.

The result of the January examination was announced on Feb. 1st. There were 58 candidates, of whom 51 ultimately entered for the examination; of these, 48 qualified, the first 16 being admitted as lieutenants-on-probation, while one withdrew during the examination. The names of the successful candidates, with the marks obtained by each out of a possible maximum of 5100, are given below:—

Name.	Marks.	Name.	Marks.
W. E. Brierley	3988	F. R. Coppinger	3610
R. Knowles	3962	A. de C. C. Charles	3575
J. B. Lapsley	3796	J. W. Barnett	3574
J. A. Shorten	3722	F. Stevenson	3554
R. B. S. Sewell	3680	S. H. West	3534
W. L. Watson	3652	Madan Lal Puri	3506
C. H. Fielding	3627	Satya Charan Pal	3501
W. J. Simpson	3621	R. S. Townsend	3483

THE ROYAL NAVY LIST.[1]

This most excellent handbook has now been before the public for more than 30 years and each year demonstrates the care with which the book is compiled while everything is done to facilitate ready reference. Over 200 pages are devoted to the record of the war and meritorious service of officers both active and retired, and there is a complete list of ships of the Royal Navy with details relating to each ship. Under the heading of the "Naval Recorder" are an article on the current history of the Royal Navy, a list of the commissions and services of first- and second-class ships on the active list, a list of the fleets and squadrons in commission since 1878, and a chronological table of notable events from the year 1219 to the present time. A valuable feature of the Navy List is a bibliography of naval literature. The book should find a place in the library of everyone who is interested in our first line of defence.

Correspondence.

"Audi alteram partem."

PLEURAL EFFUSION AND ITS TREATMENT.

To the Editor of THE LANCET.

SIR,—Sir James Barr affects to think that in agreeing to accept the term "pulmonary traction" and to substitute for my hypothetical case of fibroid phthisis with non-adherent pleuræ an actual one with adherent pleuræ I have made important admissions. This is a little ungallant of him, as these concessions were for the purpose of humouring Sir James Barr and with the full knowledge that they did not affect one way or the other the main issue between us, which is whether it is, or is not, necessary for the student of pulmonary physics to keep separate in his mind the conception of pulmonary tautness and that of pulmonary elasticity. I may at once say that after doing my best to get at Sir James Barr's meaning I do not find that he advances in his last letter a single valid argument against any of the statements made in my two previous letters. I shall once more endeavour to convince him that my contentions are as easy of proof as they are simple.

I, of course, recognise that the factor of resistance is an essential ingredient in our conception of pulmonary elasticity, that the lungs cannot be made to manifest their elasticity as regards a stretching force without being stretched, and that when they are stretched they pull on the visceral pleura and so exert traction on the circum-pulmonary structures; but it is not by virtue of their elasticity that the lungs exert this traction but by virtue of their tautness. It is quite true, as Sir James Barr insists, that the elasticity of the lungs enables them to retain their tautness and thus to exercise a continuous traction during the entire respiratory cycle, and I am ready to admit that this is a prime function of pulmonary elasticity, but we have no more right to say that the elasticity causes the traction than we have to say that the elasticity in the hangman's rope causes the death of the condemned man, or that the elasticity of the traces attached to a waggon causes the waggon to be pulled along.

[1] The Royal Navy List and Naval Recorder, No. 121, January, 1908. Whitherby and Co., 326, High Holborn, London, W.C., and 4, Newman's-court, Cornhill, London, E.C.

Even Dr. D. W. Samways, for whose support, though qualified, I am grateful, fails, eminent physicist though he is, to make the necessary distinction between tautness and elasticity. "Consider," he writes, "the thorax and the respiratory muscles at rest. The lungs remain stretched; they support by their elastic recoil a certain fraction of atmospheric pressure to which the intrapleural space (if space it may be called) is not subjected in consequence. In that sense, as Sir James Barr states, 'there is a slight negative pressure in the pleuræ owing to the elasticity of the lungs.'" I submit that the negative pressure at this moment when the chest is kept fixed and when we may assume the intrapulmonary pressure to equal the extra-corporeal pressure is due to the tautness of the pulmonary tissue pure and simple and that the factor of "elasticity" or "elastic recoil" has nothing to do with it. Let us for argument's sake suppose the lungs in the case in question suddenly to be rendered perfectly non-elastic, their tautness, however, remaining unaltered. In such a case the negative pressure in the pleuræ produced by pulmonary traction would undergo no change. Is it not therefore evident that we must keep the idea of pulmonary tautness and that of pulmonary elasticity distinct? I shall presently show that this is not merely theoretically necessary but that in actual life it is possible to get a great increase in pulmonary tautness and a corresponding augmentation of pulmonary traction though pulmonary elasticity be considerably subnormal.

But first a word as to the factors which determine "pulmonary traction." They are two—pulmonary tautness and intrapulmonary air pressure. Pulmonary traction varies directly with the one and indirectly with the other. These two factors are not only distinct but may at one and the same time work in opposite directions. Thus if at the end of a deep inspiration when pulmonary tautness is at the maximum a powerful expiratory effort be made with closed glottis, the increment in intrapulmonary pressure thus produced more than obliterates the traction effect of pulmonary tautness, and consequently the lungs no longer exert traction upon, but actually press against, the surrounding parts. Contrariwise, if at the end of a deep expiration, when the pulmonary tissue is relaxed and the lungs cease to exercise traction, a powerful inspiratory effort be made with closed glottis, the greatly lowered intra-pulmonary pressure thus effected will give rise to considerable pulmonary traction.

Pulmonary tautness then plays an important part in determining pulmonary traction, the two tending to rise and fall together. Pulmonary tautness, however, bears no constant relation to pulmonary elasticity. I shall prove this proposition by reference to two diseases—hypertrophous emphysema and fibroid phthisis. Dr. Samways remarks on the fact that the elastic tissue of the lung "strangely chooses from birth onwards never to assume the unstretched conditions." This stretched condition of the pulmonary tissue is effected by the inspiratory muscles. As I have elsewhere pointed out, the inspiratory muscles are throughout life ever on the watch to maintain pulmonary tautness at a certain mean level, with the object of maintaining a constant suction or (as Sir James Barr prefers to call it) "traction" on the heart, and thus facilitating diastole; the inspiratory muscles, in fact, play a considerable part in effecting cardiac diastole—constitute, in fact, an important diastolic force. Now let us take a simple uncomplicated case of hypertrophous emphysema insidiously coming on, as it so frequently does, without any bronchitis or cough about middle life. The lungs gradually lose their elasticity much in the same way as the skin loses its elasticity. Suppose, now, the mean size of the chest to remain the same; it is obvious that the tautness of the lungs will fall below the normal and that there will be a corresponding fall in pulmonary traction. But the mean size of the chest does not remain the same. The ever-watchful inspiratory muscles, in obedience to the physiological necessity just referred to, cause an increase in mean thoracic capacity and thus tighten the pulmonary tissue up to the normal, much as the violinist is compelled from time to time to tighten up the strings of his instrument. And thus, as the pulmonary tissue loses in elasticity with every advancing month and year, the thorax is made to increase in size and for a long time *the tautness of the pulmonary tissue, in spite of steadily diminishing elasticity, is kept at the normal and with it the resulting pulmonary traction* until at length a point is reached at which the increase in the size of the thorax can no longer keep pace

with the decrease in the elasticity of the lungs, with the result that pulmonary tautness and pulmonary traction sink below the normal. What better instance can I give of the need to distinguish between tautness and elasticity?

I now come to the case of fibroid phthisis. It is quite easy to prove that in this disease—in which all will admit there is an enormous diminution of elasticity—there may be a great increase in pulmonary tautness with a corresponding increase of pulmonary traction. Sir James Barr denies that the lungs are taut in fibroid phthisis. "Try and you will find that the fish does displace the water and the lungs are not taut and the intrathoracic pressure is not lowered." If the lungs are not taut, and if pulmonary traction is not increased, how are we to account for the "sinking in" of the upper part of the chest not infrequently met with in chronic phthisis as well as in the more acute forms of the disease? Instead, i.e., of the lungs exercising moderate traction on the upper part of the chest so that the inspiratory muscles have no difficulty in keeping that portion normally expanded, the lungs exercise a traction so great that the inspiratory muscles, strive how they may, are powerless to contend against it and the chest flattens in consequence.

It is needful to remember that pulmonary tautness is not necessarily equal throughout the entire extent of the lung. Under normal conditions, with non-adherent pleuræ and normal pulmonary texture, it tends to be. Thus when a purely abdominal breath is taken the lower part of the lungs expand first, but owing to the mobility of the lungs, rendered possible by the pleuræ, and owing to the uniform elasticity of the pulmonary tissue, the augmented tautness tends rapidly to diffuse itself throughout the entire lungs. When, however, the pleuræ are adherent, or when the structure of the lungs is profoundly modified as by the abundant deposit of fibrous tissue, one portion of the lung may be supernormally stretched while another part is only moderately taut. Suppose, for instance, that in its upper part the lung is highly fibrotic and the pleura is adherent, while in the lower parts there is emphysema, pulmonary tautness might be supernormal in the one part and subnormal in the other.

"Try and you will find that the intrathoracic pressure is not lowered." It is not clear whether Sir James Barr here means intrapulmonary or intrathoracic extrapulmonary pressure—two very different things. In another passage he refers to intrathoracic *or* intrapleural pressure, and presumably Sir James Barr is here referring to intrapleural pressure. Sir James Barr appears to assume that it is possible to measure pulmonary tautness and pulmonary traction by means of intrapulmonary pressure, but we have already seen that the two factors which determine pulmonary traction—pulmonary tautness and intrapulmonary pressure—may simultaneously operate in opposite directions. Sir James Barr not only denies that the lungs may be supernormally taut in fibroid phthisis but actually argues, or appears to argue, that pulmonary traction is necessarily lowered in this disease because the intrapulmonary pressure cannot in Müller's experiment be reduced to anything like the normal extent, say, only — 8 Hg mm., as against — 80 Hg mm. I freely admit that it may be possible to produce a higher degree of pulmonary traction in the normal individual by Müller's experiment than in the case of a patient suffering from fibroid phthisis. But people do not spend their lives in making Müller's experiment. Further, if Sir James insists upon dwelling upon the difference just referred to, I may point with equal force to the fact that in the contrary experiment of expiring with closed mouth and nares, the normal individual is capable of producing a very much higher intrapulmonary pressure than the patient with fibroid phthisis, and that therefore pulmonary traction is much more effectually obliterated and converted into pulmonary pressure in the former case than in the latter. Sir James's argument here cuts, in fact, both ways. What we have to do with, however, is not a temporary condition, voluntarily induced, but with habitual conditions, and, as a matter of fact, there is very little difference between the habitual mean intrapulmonary pressure of the normal individual and of the patient with fibroid phthisis. If, therefore, the average degree of pulmonary tautness is greater in the latter case than in the former the average degree of pulmonary traction must be greater.

Regarding my assertion that in cases of phthisis the mean size of the thorax may be increased, Sir James Barr says: "I always thought that fibroid tissue occupied less space than the portion of the lung which it replaced. I am afraid there is some confusion in Dr. Campbell's mind between fibroid tissue and the accompanying emphysema." Of course, fibroid tissue tends to occupy less space than the portion of lung which it replaces. For this reason, if the atrophied fibroid lungs are to increase in size and thus adapt themselves to the thoracic cavity, the mean size of which is constantly tending to be increased by the powerfully acting inspiratory muscles, something must give, and this giving involves not only the alveoli with the production of the emphysema to which Sir James refers, but also (what Sir James neglects to mention) the bronchi (causing bronchiectasis) and often also the tubercular cavities which tend to be pulled out by the taut lung tissue into spheroidal form; these yieldings manifestly all result from supernormal pulmonary tautness.

Sir James Barr asks why in fibroid phthisis my "heightened tautness of the lungs should allow the fingers to become bulbous"? the inference being (I presume) that by augmenting pulmonary traction it should facilitate, not impede, the circulation. The answer is surely obvious: in so far as the bulbous condition of the fingers in fibroid phthisis is due to obstructed circulation it results from the widespread destruction of the pulmonary blood-vessels. No amount of augmented traction on the heart could adequately compensate for this.

Commenting on my assertion that "comparatively non-elastic lungs, such as those seamed with scar-tissue, are capable of being rendered more taut, and thus of exerting more traction on circumjacent parts than normal, highly elastic lungs." Sir James Barr says: "This reasoning is that of the academician in his study and not that of the clinician who views facts and reasons therefrom. I shall now," he continues, "proceed to prick the bubble." This is his *modus operandi*: "Non-elastic fibroid lungs cannot be taut both in inspiration and expiration and therefore a constant negative pressure cannot thus be maintained." Quite true. Lungs wholly non-elastic could only become taut at the extreme limit of inspiration, and this to all intents and purposes means that with such lungs there would be no pulmonary traction, but, on the contrary, a positive pressure on the heart, and this would so interfere with the circulation, already sorely embarrassed by the block in the pulmonary circuit, that death would soon ensue. I admit that Sir James has pricked the bubble, but please note, Sir, that I am in no way responsible for the blowing of that poor bubble. Sir James himself is responsible for that, for it will be observed that in the passage he quotes from me I refer not to "non-elastic" but to "*comparatively* non-elastic" lungs—two very different things. While I believe it is possible for certain portions of the lung in fibroid phthisis (the apex, for instance) to be at one and the same time practically non-elastic, supernormally taut, and immobile, yet other portions must, if life is to continue, retain sufficient elasticity to remain taut during the ordinary respiratory movements.

To my contention that the enlargement in the mean size of the chest which may occur in fibroid phthisis is brought about by the inspiratory muscles, Sir James replied in his first letter that any stretching of the lungs that might occur was caused by the pressure of air within them and not by the inspiratory muscles. Referring to this I said in my last letter: "What has the average intrapulmonary air pressure got to do with the stretching of the lungs when the pleuræ are adherent? Manifestly nothing whatever," seeing that the pressure of the intrapulmonary air is counterbalanced by the extracorporeal air pressure. Dr. James Barr thus comments on this passage: "The question and answer coming from a physicist are really very funny. Does he not know that whether the lungs are adherent or not the thoracic parietes intervene between the external atmosphere and the lungs, and any force which expands the thorax beyond the expansile power of the lungs must exercise a force of 15 pounds to the square inch, and this the inspiratory muscles could not do over such a large surface as the chest though they tugged and pulled like Dr. Campbell at Cleopatra's Needle. The inspiratory muscles, like Dr. Campbell, often expend a lot of useless energy. How often do we grieve at the struggles of a poor asthmatic doing nothing?" Surely these remarks are beside the question. I nowhere made any mention of an "expansion of the thorax beyond the expansile power of the lungs," but simply referred to the moderate increase in the mean size of the chest which may sometimes be observed in cases of fibroid phthisis. Sir James's objections apply to such an expansion of the thorax as should separate the chest walls from the lungs

and leave a vacuum between the two, and not only would the inspiratory muscles be incompetent to do this, but no force which can be imagined, not even one equal to 15,000,000 pounds or 15,000,000 tons to the square inch of chest surface, would be competent to do this, for in the process of expansion the thoracic walls or the lungs would rupture long before such a vacuum could be brought about. As a matter of fact, the inspiratory muscles are competent to expand the chest to its potential maximum, as may be observed in advanced cases of hypertrophous emphysema.

May I, Sir, in concluding this long letter venture to express the hope that this time the energy expended may not be entirely lost on Sir James Barr. Certain it is that I shall be more than content if it proves as profitable to him or to others as are the respiratory struggles of the unfortunate asthmatic profitable to the latter, convinced as I am that those struggles, blind and purposeless as they may appear to the casual observer, are yet wisely directed towards a useful end, and that but for them no patient could battle through a severe asthmatic paroxysm. Nature is not always such a fool as some seem to think.

I am, Sir, yours faithfully,

Wimpole-street, Feb. 2nd, 1908. HARRY CAMPBELL.

THE CAUSE OF THE PREVALENCE OF ADENOIDS.

To the Editor of THE LANCET.

SIR,—I am glad Dr. J. Sim Wallace does not "put any importance on" his figures, for even more startling deductions might be made from them. As his five shut-window families have 26 children and his five open-window families but 19 he might have argued that closed windows at night increased the number of children born, and closed windows might be recommended to the President of the United States as a cure for race-suicide! But joking apart, I do not think Dr. Wallace will find that his theory is supported by facts. I think the explanation of his numbers, if one is needed, is that adenoid families see a lot of the doctor and where the doctor rules the windows are open at night. If adenoids are on the increase it cannot be due to open windows, for windows that really shut are of quite recent introduction. The old leaded glass always leaked and it is only since it was superseded that the bed-curtains and night-caps of our parents have been done away with. I am, Sir, yours faithfully,

O. CLAYTON JONES, M.B. Oxon.

Silverton, Exeter, Jan. 29th, 1908.

THE RESPONSIBILITY FOR THE ANÆSTHETIC.

To the Editor of THE LANCET.

SIR,—It is to be hoped that Dr. Dudley W. Buxton's paper in THE LANCET of Jan. 18th, p. 151, and your leading article thereon have been very carefully read not only by surgeons and anæsthetists but also by general practitioners. It happens far too commonly that a practitioner who calls in a surgeon to perform an operation—whatever the nature of this may be—suggests, and even requests, that he or his partner or assistant may give the anæsthetic, although there may be no adequate reason for not engaging a skilled anæsthetist. When such a request is made to a surgeon it is, of course, not easy for him to refuse, although he may have grave misgivings as to the result of his consent and although he may be well aware that the operator who permits a person of small experience to give an anæsthetic accepts a very serious responsibility.

I have no doubt such an arrangement is usually suggested in all good faith, for the majority of practitioners whom I have met do not seem to realise that for the proper conduction of a large proportion of the operations done at the present time special skill and experience are as needful in the anæsthetist as in the surgeon, and that the average practitioner cannot expect to be any more capable of replacing the one than the other. It is necessary not only to know the kind of anæsthetic best suited to the patient and to the operation but also to be well acquainted with the surgical procedure in order that pitfalls may be avoided. This is especially the case with operations on internal organs and above all with those (even "trivial" ones) on the upper air-passages, where safety and success can only be attained by a knowledge of the operator's methods and a perfect coöperation between him and the anæsthetist. So many instances have come to my knowledge where want of special experience in a self-constituted anæsthetist has led to inconvenience and even disaster that I venture to trouble you with this letter. I am, Sir, yours faithfully,

Jan. 25th, 1908. F.R.C.S.

THE PRESENT PROSPECTS OF THE MEDICAL PROFESSION.

To the Editor of THE LANCET.

SIR,—The remarks of "Inspector-General" in your issue of Jan. 25th are worthy of the very greatest consideration, and call for more than ordinary passing comments in your correspondence columns. Indeed, a change of government in the whole attitude and conduct of modern professional manners is sadly needed. Everything is moving too quickly nowadays and this is not foreign to ourselves. There is a rush, a congestion, and a competition in our ranks which is decidedly tending to disorganise the enthusiasm and high aims of those who formerly filled the ranks of the profession. There is, in fact, disorder. That this is the outcome of education and general social changes is clear. But to stave off this wave of socialism in medicine needs a stronger bulwark than the lean-to wall of your valuable professional journal or any other medical publication of your standard.

Thus, Sir, my fragmentary remarks in THE LANCET in support of "Inspector-General" may possibly only react proportionately as a grain of sand. But medicine is full of hope and, although slow in results, nevertheless a number of grains of sand may affect the whole problem before us—viz., the present, nay probably the future, prospects of the medical profession. We are apt to throw stones at glass windows and to blame others for a great deal that befalls the profession when, if we weighed the matter thoughtfully, perhaps we ourselves are sore. There are hundreds of men in the profession striving to aim at good deeds but they are baffled by those whose methods and practice are not pleasant to behold. If we despise the lay advertiser why should this not apply to ourselves, may I ask? Is not personal advertisement contrary to the ethics of the profession of medicine? Why, then, do gentlemen send open postcards and the like through the post seeking patients? Are there no censors in the profession? And, what is worse, how few of us have the courage of their opinions and perhaps are too shy to utter condemnation on personal advertisement? But is not the canker worm of self-advertisement a sign of stress—an ominous warning for the future of the profession for which some drastic measures will have to be devised sooner or later? It is impossible for a whole body of men to travel along a corduroy road for a length of time without several falling out of the ranks.

Again I will draw attention to another lapse in medicine among the present generation—namely, the using of proprietary drugs and other medicaments foreign to the order of the British Pharmacopœia. What has become of the good old pill may I ask? And if we do not actually practise empiricism do not we sail very close to the wind and encourage that class of the laity who deal in such things? Altogether, from the drug point of view, are we not getting very muddled?

As concerns our practice, there is no definite ruling as to what constitutes the exact duties of the general practitioner, because his need to earn a living wage encourages him to be Jack of all branches of the profession. Hence arises specialism, but truly there is more dabbling in the specialties of the profession by its members than is justified. And it is questionable whether this dabbling by the recently qualified is not indirectly an explanation of the oft-repeated public censure which the profession as a whole has to endure. In the army we see things are differently managed, for there is a stage of probation, then successive periods, including an examination, before the young man reaches the title of a colonel. And in general civil practice we ought to see something similar, so that a junior should not rank as high as his senior who has practised for many years. The licensing bodies might renew by fresh reception, at varying periods, an extension to practise, gradually weeding out those who by age, incompetency, or irregular practice rightly cease as practising members. Above all, before a candidate qualified to practise leaves the threshold of the licensing body, be it the Royal College of Physicians or the Royal College of Surgeons, there should not be the slightest doubt as to

what are his duties to himself and his professional brethren. This should be empanelled in a thoroughly bound document with the stamp of the College detailing their methods and manners of practice and all matters likely to lead to controversial dispute in the future of the recipient.

We have no regular scale of fees, but the most important point for all thoughtful men is the spirit of trade-unionism which has been discussed so much in the medical journals. Once and for all let us at once knock such nonsense on the head. Until there is a revolution or a break up of the empire no such practice can be adopted in the care of the sick and wounded. How can we regulate hours of labour in war, and the practice of medicine is war against disease. There is also another spirit which is equally increasing in the rising generation which affects the nobility of our calling. As is the case of the servants of the Church, poverty to a great extent must befall the rank and file of medicine. There is only room for a certain number of bishops and of physicians and surgeons in ordinary and the rest must be satisfied with their lot and be content with a life of love for their follow creatures. I do not know of any calling in life in which a love of medicine with a private income could be better fulfilled and do at the same time much signal service to the medical profession. Parents of the well-to-do might well consider this and put their sons into the profession of medicine instead of other callings. How cowardly seems the way in which we sometimes neglect our right when we stoop to the power of money.

I would remark that the rise and fall of our profession or of a nation will always be dependent upon its leaders, and I would emphasise the great importance of this leadership and example from those who are officers in the great army of medicine and surgery. I mean our teachers and professors at the schools for medicine and surgery, the authorities at the Royal Colleges, and all to whom the student of physic looks for his education and guidance. If I have confined myself to a particular groove of thought perhaps some other members of the profession will take a different line and give assistance in this difficult question of the present prospects of the medical profession. Perhaps he will confine himself more strictly to what may seem to be the text, but I hope he will at least remind the great leaders of medicine and surgery of their enormous ethical responsibilities. For such leaders may stave off the effects of the wave of discontent in the medical profession.

I am, Sir, yours faithfully,

Jan. 25th, 1908. VIRTUTEM SEQUOR.

To the Editor of THE LANCET.

SIR,—In THE LANCET of Jan. 25th "Inspector-General" mentions several reasons for the alleged present serious financial condition of many of the general practitioners of this country. "Inspector-General," however, gives no remedy. I do not think we have far to seek to find the cause and therefore the cure. The cause, to my mind, is the ignorance or lethargy, or both, of a large number of the general practitioners. On H.R.H. the Prince of Wales's return from his colonial tour, when speaking at the Guildhall, his message to Great Britain was to "wake up." The same message, to my mind, might with advantage be taken to heart *and acted upon* by a vast number of the general practitioners scattered through our land.

"Inspector-General" mentions "quackery" as one cause—granted; and undoubtedly legislation ought to come to our aid in this respect, not mainly to protect us, however, but to protect the public. Your correspondent mentions "preventive medicine," but not as a cause; it certainly is not a cause, for, granted a proper knowledge of preventive medicine, our incomes would be quite as large from the exercise of that humane branch as from the treatment of disease, and certainly with greater satisfaction to ourselves. "Inspector-General" gives two other reasons for the present serious financial condition of many members of our profession—viz., (1) that railways have brought the rural districts "into touch with towns where patients can consult some medical man renowned for special knowledge of their ailments"; and (2) "the abuse of medical charities." The first of these causes he says is "entirely non-medical"—I disagree. The second cause undoubtedly exists. I maintain that both are the fault of the general practitioners to a very large extent. If the mass of general practitioners of this country knew their work well they would treat the cases themselves and not send them to "specialists," nor would their patients go to "specialists."

The medical student before he leaves his hospital ought to hold at least one appointment in every branch of his profession, so that when he goes into practice he is able to remove tonsils, adenoids, turbinates, polypi, and other nasal obstructions; to treat diseases of the throat, nose, ear, &c.; to correct errors of refraction and deal with astigmatism; to properly treat displacements of the uterus, be able to curette the uterine cavity, amputate the cervix, &c., and so on through all the thousand-and-one minor operations. His knowledge, however, should not cease there, but nowadays with surgery so simplified by aseptic methods he ought to be able to do abdominal surgery and other major operations.

Where does the "specialist" come in? In his proper place, to diagnose really obscure cases, to operate on those cases which this or that general practitioner is not justified in doing because he is unable to get sufficient practice in this or that particular operation. If the general practitioner knew his work, as I maintain he ought to know it, the wealth of the "specialists" would to a large extent be distributed over the medical community, the number of "specialists" would be reduced, and the medical profession would once more be flourishing. It is, I think, forgotten by many that each patient sent by them to a "specialist" means the loss to them, only too frequently, not only of that patient but of all that patient's friends who have, or think they have, any disease affecting that particular region of the body.

I say again, let the general practitioners of this country "wake up"; let those who do not know their work properly, learn it; and those who do, awake from their lethargy and do the work themselves. Personally, I have been in general practice many years and now am half a general practitioner and half a consultant, although not being on the staff of a hospital I am aware that some would deny me the right of calling myself a consultant at all—but in that case they must call me a general practitioner who is consulted frequently by his fellow practitioners. How have I acted in the past? Whenever necessary to consult a "specialist" I have gone with my patient, have kept my eyes open, and any operations I did not know how to do I very soon learnt the way and in the future did them myself as long as I felt justified by my knowledge to do so. To my mind *there* lies the principal remedy, and if the general practitioners will only exercise it we should soon hear less of these financial difficulties.

I am, Sir, yours faithfully,

London, Jan. 25th, 1908. HALF-AND-HALF.

THE SPREAD OF CHOLERA IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE ON THE CONSTANTINOPLE BOARD OF HEALTH.)

As reported in my last letter[1] this year's pilgrimage to Mecca and Medina is very seriously infected with cholera. From Mecca the following daily returns have been received since the beginning of January (these figures are in continuation of those published in the letter just referred to):—

Jan.	1st	...	52	deaths	...	15	cases isolated.
,,	2nd	...	52	,,	...	4	,,
,,	3rd	...	56	,,	...	14	,,
,,	4th	...	67	,,	...	17	,,
,,	5th	...	86	,,	...	12	,,
,,	6th	...	98	,,	...	20	,,
,,	7th	...	127	,,	...	46	,,
,,	8th	...	185	,,	...	48	,,
,,	9th	...	177	,,	...	42	,,
,,	10th	...	241	,,	...	27	,,
,,	11th	...	257	,,	...	6	,,
,,	12th*	...	121	,,	...	—	
,,	13th	...	62	,,	...	—	
,,	14th	...	16†	,,	...	—	
,,	15th	...	31‡	,,	...	—	
,,	16th	...	143§	,,	...	—	
,,	17th	...	486	,,	...	18‖	cases isolated.
,,	18th	...	394	,,	...	—	
,,	19th	...	350	,,	...	—	
,,	20th	...	246	,,	...	—	

* On this day the pilgrims left Mecca for Arafat and Mina. † At Mina 32 deaths. ‡ At Mina 201 deaths. § At Mina 195 deaths. ‖ The pilgrims had now returned to Mecca.

The above figures are interesting. Up to Jan. 11th there was a steady rise in the number of deaths, corresponding

[1] THE LANCET, Jan. 18th, 1908, p. 189.

with the steady accumulation of pilgrims as the fêtes approached. The telegram of Jan. 5th states that the rise in the number of deaths on that day was due to the arrival of infected caravans from Medina and Jeddah. On the 12th, the eve of the first day of Kurban Bairam, the pilgrims were flocking out to Arafat and Mina; the town of Mecca would be largely deserted, and the number of deaths from cholera there underwent a corresponding diminution. Then, after the fêtes, the pilgrims flowed back to the city, and there was an explosive rise in the curve of the outbreak, followed by a slight but steady fall. It is almost certain that the returns were very incomplete during the days that the fêtes lasted, when the pilgrims were in more or less constant movement, and distributed over a relatively large area. It may, therefore, be assumed that the true figures, could they have been ascertained, would have considerably exceeded those here given. The total number of cases reported from Mecca has been 4373, and that of deaths 3992 down to Jan. 20th.

In Medina the numbers have been less, as was to be anticipated, for, whereas all the pilgrims visit Mecca, only a certain proportion of them go to Medina; and, of these, perhaps the majority go there after, rather than before, the fêtes. It is unnecessary to quote the daily returns from Medina. They may be summarised as follows:—

Between Dec. 18th and Dec. 24th	...	78	cases	...	74	deaths.
,, ,, 25th ,, Jan. 3rd	...	133	,,	...	113	,,
,, Jan. 4th ,, ,, 7th	...	73	,,	...	32	,,
,, ,, 8th ,, ,, 15th	...	46	,,	...	41	,,

The returns from Medina have, however, been very incomplete; on many days the bulletin has been altogether missing.

In Yanbo 107 cases of cholera, with 69 deaths, were recorded between Dec. 20th and 24th; and 148 cases, with 91 deaths, between Dec. 25th and Jan. 3rd. Since the last-named date no news has been received of the course of the outbreak in Yanbo.

In Jeddah it will be recalled that two cases of the disease, both fatal, occurred on Dec. 26th and 29th respectively. Then, between Dec. 30th and Jan. 4th, there were 20 cases and 19 deaths; between Jan. 5th and 9th, 8 cases and 8 deaths; and between Jan. 10th and 19th, 4 cases with 3 deaths. Finally, the latest telegrams from Jeddah show that the pilgrims are now flowing back there from Mecca and bringing the infection with them. Thus, on the 19th it was reported that one case of cholera had occurred in a caravan arriving from Mecca; on the 20th 8 deaths from the disease were recorded there; and on the 21st there were 26 deaths and 3 cases isolated.

In the meantime the outbreak of cholera in the Abu-Saad lazaret (Jeddah) has diminished but has not come wholly to an end. It will be recalled that several ships arrived there from Yanbo with large numbers of hajjis suffering from the disease. Between Dec. 21st and 29th as many as 128 cases with 53 deaths occurred among these pilgrims. Between Dec. 30th and Jan. 4th there were 46 fresh cases and 36 deaths; between Jan. 5th and 9th 12 cases and 9 deaths; and between Jan. 10th and 18th 4 cases and 4 deaths. In addition, the French pilgrim ship from Sinope and Constantinople which was mentioned in my last letter arrived at the Abu-Saad lazaret on Jan. 3rd and reported that 19 deaths from cholera had occurred on board during the voyage. Possibly all these deaths were not due to cholera, as of three fatal cases from her landed at the Wells of Moses and originally reported as cases of cholera it has now been shown that only in 1 was death due to that disease, the others having died from pneumonia and pneumonia with dysentery respectively. However this may be, it appears that a further death from cholera occurred on Jan. 4th among this ship's pilgrims at Abu-Saad, and 7 more cases were landed from her on the 5th.

A pilgrimage so seriously contaminated with cholera as the present one offers an obvious and very real danger for the rest of the world; and for the next few weeks and months the sanitary defences of countries in close proximity to Arabia—and later possibly those of countries farther removed—will be put to a serious strain. On the present occasion a new factor, which did not exist during former epidemics, has to be taken into consideration by those responsible for the sanitary control of the dispersing pilgrims. This is the Hedjaz railway. A detailed scheme of measures for the sanitary defence of the line during the present Haj has been drawn up; and some, if not all, of these measures are already being executed. I hope to recur to this subject in greater detail in a later letter. The measures imposed by the Constantinople Board of Health on pilgrims returning from the Hedjaz by sea may be summarised as follows. Pilgrim ships coming to the Mediterranean will, after undergoing the measures prescribed by the Egyptian regulations at the lazaret of Tor, be subject to a further five days' quarantine and disinfection in one of the Turkish lazarets of Clazomene (Smyrna), Beirût, or Tripoli (Africa). In addition, those destined for Constantinople will be subject to a medical visit on passing the Dardanelles and again on arriving at Constantinople. Russian pilgrims are to be carried on ships exclusively reserved for their direct transport to Russian ports. Such ships will first do the regulation quarantine at Tor and will then be allowed to transit the Dardanelles and Bosphorus in quarantine. They will, however, be permitted to provision, under strict sanitary surveillance, at the Clazomene lazaret. Should cases of cholera occur on any of these ships they will be sent to the Clazomene lazaret for the necessary measures of quarantine and disinfection, after which they will still have to pass the Straits in quarantine.

As will have been gathered from earlier letters, the city of Constantinople has been menaced with a possible invasion of cholera from Russia through the latter part of the year just closed. Down to the last day of the year it was hoped, apparently with reason, that it would escape, in spite of the constant passage of pilgrim ships past its shores and in spite of the actual occurrence of one case among pilgrims in Stamboul in November.[2] This hope has now, unfortunately, been falsified. On Jan. 1st a case of disease presenting all the symptoms of cholera occurred in the Yenishehir quarter of the town. This is really a suburb of Pera. The patient died and the bacteriological evidence showed that death had in fact been due to cholera. This case has been followed at intervals by eight others, making nine in all; and eight out of the nine cases have ended in death. In every case the diagnosis of cholera based on the clinical history and appearances after death has been confirmed by the results of a bacteriological inquiry. The cases have been scattered over a large area, extending from the northern Bosphorus to the Marmora and including Pera, Stamboul, and both shores of the Bosphorus. Thus, in addition to the first case mentioned above, there have been two cases at Beicos, near the northern end of the Bosphorus on the Asiatic side; one at Rumeli Hissar, about half way up the Strait on the European side; two of boatmen in the Golden Horn; one in the Balata quarter of Stamboul (near the Golden Horn); one in a boatman at Haidar Pasha, opposite Stamboul, on the Asiatic shore of the Bosphorus and the terminus of the Bagdad Railway; and, finally, one at Zeitun Bournou, on the Marmora shores of Stamboul. It is not known how these persons contracted the infection, nor has any connexion between the successive cases been traced. Passengers leaving Constantinople by sea or land are now subjected to a medical visit and disinfection on departure, and to a medical visit on arrival in another Turkish port. The weather in this city is at present cold, the thermometer varying between 0° and + 5° C. This may possibly explain the sporadic character of the outbreak up to the present and may countenance the hope that the infection will die out before the spring.

In Russia the epidemic has apparently completely come to an end. Since Dec. 18th (31st) no cases of the disease have been returned from any part of the Empire. The following figures complete those published in former letters:—

—	From Nov. 28th to Dec. 4th.*		From Dec. 5th to 11th *		From Dec. 12th to 18th.*	
	Cases	Deaths	Cases	Deaths	Cases	Deaths
Penza (government) ...	17	8	13	6	13	4
Samara (town)...	—	—	1	1	—	—
Samara (government) ...	—	—	3	1	—	—
Yaroslavl (town)	2	1	1	1	—	—
Kief (town)	9	—	5	1	—	—
Kursk (government) ...	7	1	6	2	2	—
Orenburg (government)	2	—	3	3	—	—
Rostof on Don	4	—	—	—	—	—
Kuban Territory	3	1	3	6	1	—
Tomsk (government) ...	—	—	3	10	1	1
Akmolinsk Territory ...	1	—	5	—	—	—

* The dates in the above table are according to the Old Style.

[2] THE LANCET, Jan. 4th, 1908, p. 52.

The total number of cases of cholera registered in the Russian Empire since the beginning of the epidemic down to Dec. 18th (31st) was 12,109 and that of deaths 5800.

Constantinople, Jan. 23rd.

SANITATION AT SEA.

THE VENTILATION AND DRAINAGE OF SOME LIVERPOOL PASSENGER SHIPS.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE newest developments in shipbuilding may inspire the hope that real progress will be accomplished in securing sanitation at sea; nevertheless, the fact remains that there is still much to be done. Undoubtedly the rivalry in running great and luxurious liners is a force that makes for sanitary improvements. It is now very generally acknowledged that special machinery must be employed to propel the necessary amount of air into a ship; therefore the newer and best ships have machinery for this purpose. This is a great step forward. There now remain the regulation of such supply and its even distribution over all parts of the ship without, however, causing injurious draughts. Having seen on the *Mauretania* and the *Lusitania* the latest efforts that have been made in this direction, I visited the White Star liner *Cedric*, which is not a new boat nor can it be considered an old boat. Again, it is not one of the more recent and extravagantly luxurious ships, while, on the other hand, it is a very large and comfortable vessel. It was in the early morning of Nov. 21st last that I went on board this ship while still in dock at Liverpool, though she sailed that afternoon for New York. My first experience was to assist at the examination of the crew and steerage passengers by the Board of Trade medical inspectors. The crew marched past in Indian file as their names were called out, for they had already been placed in line and in order along the promenade deck. Then followed some 350 steerage passengers. An interpreter helped the medical officer to ask questions. But as all these persons had previously been carefully examined by the ship's surgeon this was more a formal matter and only doubtful looking passengers were stopped and questioned anew. Some of the emigrants were rather rough in manner and appearance. They were taught their first lesson of ship's discipline by being made to take off their hats and to remove their cigarettes from their mouths when passing before the inspectors. But the manner in which this lesson was conveyed was at times as rough as the behaviour it was intended to correct. There was more trouble with the women. The Board of Trade instruction is that nothing must be taken on board that might be the cause of hurt or injury. Consequently, a dead set was made against hatpins. These sharp points protruding from the sides of women's hats are undoubtedly dangerous on a crowded deck, particularly when, as the ship rolls, passengers stumble up against one another. The examining medical officer explained that recently in a Liverpool omnibus a lady moved her head in such a manner that she drove her hatpin into a gentleman's eye. The lady thereupon had a fit of hysterics in the omnibus but this did not restore the wounded gentleman's sight. Consequently all the women had to remove their hatpins before they were allowed to proceed, but as these dangerous implements were not confiscated I do not see what is to prevent their using them again once the ship is out of port. The stewards will have a hard time of it if they are going to watch all these women and see that they never use their hatpins again during the whole voyage. Still, it is undoubtedly dangerous to wear hats from which protrude long and sharp pins when the sea is rough and it is impossible to walk straight and steadily. Some curious incidents occur during these examinations. Thus one woman was kept back to be examined more thoroughly because she persisted in saying that she did not know the age of her own child. Perhaps she was afraid of being charged a higher fare, though this had nothing whatsoever to do with the medical officer. All he could do was to insist on the child showing the vaccination marks. The chief thing was the eyes. Four passengers had been refused by the ship's surgeon and the Board of Trade medical inspector again re-examined the eyes of several passengers. Some looked very wretched specimens of humanity, but there was no organic defect, so they were allowed to pass.

The *Cedric* is a very large ship of 21,000 tons and could carry 1835 third-class passengers. It possesses in all ten steam and six electrical ventilating fans but also relies largely on natural ventilation. There are numerous mushroom cowl ventilators in the sheltered parts of the promenade deck. How far these work satisfactorily I had but few opportunities of ascertaining. One thing I may venture to say. The lavatories are badly situated; indeed, they are in so unsuitable a position that it is absolutely necessary to employ mechanical force to prevent a nuisance arising. They are just in the very centre of the ship, as far away from the sides or from natural ventilation as it is possible to place them. Now there is in this a distinct advantage. The Criterion was, I believe, the first theatre in London to be ventilated scientifically and this simply because being built entirely underground there could be no natural ventilation whatsoever. In the lavatories of the *Cedric* there are air shafts or trunks along the ceiling with openings over each closet seat and the suction, mechanically produced, is so strong that a piece of paper will be held against the wire netting by the force of the outrushing air current. In the third-class dining-room I also found the suction within the ventilating trunks strong enough to hold paper fast against the apertures for drawing out the air. The system here is to draw away the air, leaving it to find its way in by the accident of doors and portholes. The electric fans employed are of the "sirocco" type and they are very powerful. They are reserved for the passenger part of the ship. But the very word "sirocco" suggests the principal difficulty. Something like a sirocco might be useful for a blast furnace but no one would desire to have a sirocco in his cabin. Perhaps when applied for suction only it may not cause much inconvenience but if the air is blown into the cabins with great force the ventilators will be closed. Thus though there were many air shafts or trunks travelling along the ceiling, notably in the sleeping compartment of the steerage, the currents of air coming through the apertures which I examined seemed to me much too strong for anyone to sit or to lie down near them. There is great need of a more systematic means for delivering the air so as to avoid cutting draughts. In the hospital I could not find any mechanical ventilation, though it is more needed there than elsewhere. There was what is called a torpedo ventilator communicating with the very badly situated hospital closet. This is a sort of cowl which catches the air as the ship moves along and is of little or no use when the ship is not moving. But it should be in the open air, whereas in this case it was between decks and near the descent to the hold. There were, of course, portholes, and some of them have an air inlet but this is natural ventilation. Undoubtedly, the lavatories are the best ventilated part of the ship and the hospital should have been treated in the same manner. In the smoke room there was a double dome. Some of the glass panes of the inner dome were removed and replaced by ornamental fretwork. As a suction is produced between the outer and inner dome the air is drawn away through the fretwork. In a word, it seemed to me that though the *Cedric* possesses a considerable amount of mechanical power this is not utilised in a systematic manner. The means are there but their application is defective. Too much is left to accident, there is no well-thought-out organised method. But probably much about the same thing could be said of almost every ship afloat.

The Board of Trade insists that there shall be means of ventilation, but what indication is there as to how these are to be applied? If the result is far from perfect even on palatial liners what happens on ships of more modest pretensions? While in Liverpool I had the opportunity of visiting a few of the latter kind of ships belonging to other and to different companies. This experience was neither pleasant nor encouraging. One was a big cattle ship which was to sail in about 24 hours. The filth that still remained on board was so abundant that I failed to see how the ship could possibly be cleaned in time. Of course, this was due to the cattle which had been on board, and though these had been landed some time ago it does not seem to me that the decks had been properly scoured out. In dark corners there were still accumulations of nondescript filth and refuse. Where some of the cattle-men sleep there is a gutter running along the side of the ship. Liquid manure and water travels and with the pitching of the ship sometimes rushes along this gutter. It passes under some of the bunks occupied by cattle-men. It used to be uncovered and caused a very bad smell. The only reason for not doing away with it altogether is the desire to

preserve this drain in case the place where these cattle-men now sleep should on some occasion be required for cattle. Then the drain would be useful. In the meanwhile the only concession made is the introduction of a few planks so that manure still continues to pass to and fro inside the men's cabin but it is boarded over. There are steam-pipes all round and these are much needed in the winter for heating the cabins but they also help to increase the odour of the manure. Obviously the manure from the cattle should not be allowed to penetrate the cabin where men sleep. The quarters for the cattle-men are more extensive than the seamen's quarters and there are many bunks, but if anything there is even less provision for ventilation. The seamen occupy a cabin where there is no order, no principle, no sign of any scientific effort whatsoever to procure ventilation, though there are several pipes leading down to their cabin. One of the pipe ventilators had evidently been closed up. This will inevitably happen, for it does not suffice that there should be a pipe to admit the air, there must also be means so to regulate this inlet that it shall not cause an injurious or unpleasant draught. Then in the seamen's quarters there was the chain pipe down which the anchor chain rattles and makes a great noise, rendering sleep difficult. It is true that all hands are generally on deck when the anchor is weighed.

Some of the closets were locked and it is curious how often the keys are mislaid when a ship is unexpectedly visited. However, I succeeded in seeing a trough closet, with three seats and no privacy. A pipe communicating with the donkey-engine discharges water that would clear out the bottom of the trough, but the splashings on the side of the trough would not be effected by this occasional flush. They are supposed to be scrubbed away by a brush, but it is doubtful if this is done, and then if it is done what becomes of the brush? This brush, impregnated with fæcal matter, might be a source of danger if any of the persons using the closet were carriers of typhoid or cholera bacilli. That the clearing out of a closet with three seats should depend on hand labour and a brush properly and frequently applied to the sides of a trough is a most rudimentary and dangerous arrangement. To find such an insanitary closet on a ship shows how little attention is given to these matters. The washing accommodation also was absolutely insufficient. In "the glory hole," a term which derisively designates the stewards' quarters, I found near the entrance a small wooden shelf. In this a round hole had been cut just the right size to hold a wooden bucket. This receptacle was half full of water in which, to judge from appearances, more than one person had already washed. It was necessary to go out on deck to pour the dirty water away and to get a clean supply. The stewards are crowded together in a very small space and are left to do the best that they can. If they wash at all it is greatly to their credit considering the few facilities afforded. Nevertheless, some passengers are carried on this ship, and it is high time that the travelling public should insist that those who wait upon them must have all the necessary convenience to keep themselves clean.

On another and smaller ship which does not carry cattle but only cargo and passengers I likewise found very miserable conditions among the firemen and sailors. Over one bunk in a very small and unventilated cabin there passed the soil-pipe from a closet which was on the deck above. The pipe came across the angle from the deck just above this upper berth and the side of the ship. During the last voyage this pipe burst and the soil fell on the fireman's bed. Never before have I seen a soil-pipe above and within a few inches of a bed. Instead of removing this or at least putting in a new and sound pipe, it had only been roughly mended with soldering and a patch. The same accident may therefore occur again. Though I found no ventilator in the firemen's quarters there was an air-pipe coming down into the seamen's quarters. The cabin was loftier than usual but very crowded and there was not floor room enough for two or three sailors to dress at one and the same time. Another ship of the same type offered somewhat similar disadvantages. The firemen's quarters had just been scrubbed and washed out and still did not smell sweet. I noticed here that the doors of the small food lockers had in many instances been wrenched off. These food lockers are a source of trouble and of danger especially in respect to the rats which they attract. In any case they ought not to be in the sleeping compartment. If there is a mess room there might be food lockers but these should not be allowed in the overcrowded sleeping cabins. Now that the law insists on 120 instead of 72 cubic feet per head this will be more easily managed; but a ship was pointed out to me which, though built quite recently, had only allowed 72 cubic feet for the crew and therefore there was no room for washing, yet the men have to eat and to sleep in their small cabins. As for washing, an iron bucket was provided and it was used either on deck or in the stoke-hole. This, however, was a Channel boat, whereas the other ships I have described are all engaged for ocean traffic and make prolonged journeys.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

The Quarterly Report of the Medical Officer of Health.

THE medical officer's report upon the last quarter of 1907 may on the whole be looked upon as indicating a fairly satisfactory condition of the health of the city during the latter part of last year. The death-rate was 16·1 per 1000, a little worse than in the corresponding quarter of 1906, and the birth-rate unfortunately was extremely low—26·6 per 1000, which is a slightly lower rate than in the last quarter of the previous year. The most unsatisfactory features of the quarter were the continued prevalence of scarlet fever and measles. The cases of scarlet fever reported numbered 904, or almost double the number recorded in the same period of 1906, and the deaths caused by the disease were more than double those of the same period last year—that is, 39, as contrasted with 18; yet even this unsatisfactory condition is better than that which has prevailed in some of the past years. The cases of diphtheria, although far too prevalent, were not so numerous as in the last quarter of 1906, and the deaths which resulted from it were comparatively few, the death-rate being only 9·1 per cent. There were only 70 cases of typhoid fever, a new record for the quarter, and the history of some of the cases pointed so strongly to infection by means of mussels that an inquiry into the matter has been commenced but as yet no results have been published.

The Cost of Medical Inspection of School Children.

There is a growing sense of irritation in this district against the expense which the new Act is going to throw on the ratepayers, more particularly in densely populated areas where the cost will fall most heavily. It is pointed out that increased adminstrative expenditure will be necessitated, but the increased administrative expenditure does not strengthen a claim for a special grant for educational purposes, for the Board of Education has decided not to allow special grants for expenditure on administrative purposes which exceed the produce of a penny rate. It is becoming more and more obvious that administrative expenses must increase if the new rules and laws are to be carried out, and in these circumstances the opinion is becoming more and more plainly expressed that if Parliament and Government departments make rules and regulations which must cause increased expenditure and if that expenditure is to be incurred for national purposes then the ruling authorities should at the same time make arrangements to provide a considerable proportion of the necessary money.

The Milk-supply of the City and the Midland Farmers' Association.

At the recent annual meeting of the Midland Farmers' Association attention was directed to Dr. J. Robertson's report that 14 per cent. of the milk sent into Birmingham was contaminated with tubercle bacilli. The association recommended all its members to exercise great care in the examination of their cows, particularly as regards the udders, and advised them to take steps at once to remedy any abnormal conditions. The executive committee expressed its willingness to coöperate with the health committee of the city in every possible way. In moving the adoption of the report Lord Harrowby expressed the belief that the Bill dealing with the question of milk-supply which is to be brought before the House of Commons contains no provision for the payment of compensation for animals slaughtered for the public good, and a motion was carried stating the conviction of the association that legislation requiring the compulsory slaughtering of infected cattle should be associated with provision for proper compensation.

St. John Ambulance Association.

The report presented at the annual meeting of the Birmingham centre of the St. John Ambulance Association shows that the work of the centre continues at a high level. 24 classes were held during the year and most satisfactory examination results were secured. It was stated that the appeal made for funds for the Birmingham corps of the brigade had not met with a satisfactory response, and further support is needed to enable the brigade to attain its full development. In proposing a vote of thanks to the Lord Mayor, who presided at the meeting, Dr. T. Nelson, the chief surgeon of the brigade, pointed out that new headquarters would be required, for those at present held have to be given up during the year, and he expressed the hope that provision might be made in the new municipal buildings. If Dr. Nelson's hope is realised the brigade will be fortunate, but no doubt whether in the municipal buildings or elsewhere suitable headquarters will be found.

The Analyst's Report.

The analyst's report is always interesting reading for it gives us a general idea of the possible purity of the food we consume. Apparently during the last quarter of 1907 our milk-supply was less tampered with than during the same period of the previous year, and the cases of addition of poisonous preservatives were both very few and comparatively unimportant. Butter also, so far as the samples taken were concerned, showed less evidence of adulteration than in the same quarter of 1906. We may therefore congratulate ourselves that during the latter part of 1907 our food was a little more pure than usual and that may be looked upon as some compensation for its increased cost.

The late Sir William Cook.

By the death of Sir William Cook Birmingham is deprived of a man who took the greatest interest in, and gave freely of his services to, everything which appertained to the good health of the city. He was chairman of the health committee for the long period of 34 years. He was closely associated with, and took an active part in, every important movement for the sanitary reform of the city during that time and we have to thank his skill, foresight, and energy for many of the advantages which we enjoy to-day. One of the last efforts which he made for health purposes was that by which he induced the council to acquire Salterby Grange for a sanatorium, and, in the opinion of many people, he was the only man who could have induced the council to take the step at the time when the motion was brought forward. From 1880 till his death he was chairman of the Hospital Saturday Fund and he had the pleasure of seeing the annual income of the Fund gradually increase till last year it attained to the amount of £20,000, a sum upon which he had set his heart. He was a governor of the General Hospital and a supporter of the New Lying-in Charity. He worked hard for both institutions; indeed, he was a man who will always be honoured as one who gave his best work for the good of his fellow citizens.

Feb. 4th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Anthrax in the Market.

A CASE brought before the stipendiary magistrate on Jan. 29th shows how necessary it is that skilled inspection of food should be carried out by those who are qualified and alert. Two quarters of beef were exposed for sale in the meat market on Dec. 12th last. The chief veterinary inspector said it was "rough-looking" and took a sample. Microscopical examination, confirmed by others, showed that it was a case of anthrax. There does not seem to have been any attempt at concealment in this case, for when the inspector said that he should have to seize the whole of it the butcher told him he had sold the other half but kept this for the inspector to see. He also showed a letter from the person who had sent the carcass saying that the heifer had been accidentally hanged and was not bled till an hour after it happened. "But run no risk; have it inspected before exposing. I expect it is all right." This looks as if the sender's suspicions were excited. Happily the portions already sold were recovered before any had been used for food. The defendant had been in business for 30 years and was a past-president of the Manchester and Salford Butchers' Association; he had "an unblemished business reputation," so that he had every motive for not attempting any concealment of the facts. He had, however, to pay a fine of £10 and costs, and the magistrate said, "if he had been of opinion that the defendant sold the meat knowing it to be affected with anthrax he should have been obliged to send him to prison." This may seem to be rather a hard case for the butcher but the food-supply must be carefully guarded.

Useful and Unobtrusive.

Though our charities are no doubt often abused, yet those who know most as to the condition of the patients in the Manchester hospitals acknowledge that on the whole they are as to means in a state of poverty, and from that point of view worthy of help. One of the most useful ways of affording help is to give them suitable garments for use in hospital or on leaving. The Manchester Hospital Work Society is an association that year by year distributes garments, made by the associates themselves, to the poor sick in the hospitals. It has been correctly described as a society for work and not for collecting money, and this description was justified by the statements made at the annual meeting presided over by the Lady Mayoress on Jan. 29th. But like most other organisations, its prosperity ebbs and flows, and this last year the tide of its success was low. Dr. A. M. Edge said that fewer garments had been received for distribution, far short of two garments per bed which is aimed at. New hospitals and hospital enlargements are being built, so that the outlook is serious as they mean more patients. There is one point named in the report of the committee which will be appreciated by those who deplore the deaths from burning so often occurring where flannelette is worn. The committee pleaded for the use of flannel and not flannelette in making bed jackets. Dr. W. Walter read the financial statement which showed the year's income as £103 and the working expenses as £19 14*s*. The lady associates had contributed 2228 garments, while the funds only allowed of 448 being purchased. This special charity is one that appeals more particularly to the active benevolence of women and should be more successful than it is. The Lady Mayoress, who must be acknowledged to speak with authority on such a subject, considered that "two garments a year were really a very small contribution from one woman," and she seemed to think that fancy work was more attractive than plain sewing, but ventured to predict that the day of the former would go by and good plain needlework come to the front. The value of the work was testified to by Mr. Andrew Boutflower and other medical men. Surely there are many ladies in the district who would gladly join in this work if it were brought to their notice. *Apropos* of the mention of flannelette, on Jan. 29th the city coroner held inquests on four children in different parts of Manchester who had died from burning. The usual accounts were given—the absence of the mother for a few minutes, no fireguards, and playing with matches. The coroner said that "it was most heart-rending to have to hold inquests on so many little children."

Convocation of the University of Manchester.

A meeting of the Convocation was held on Jan. 29th, when Professor R. B. Wild was unanimously elected chairman of Convocation. Dr. George Ashton, Captain R.A.M.C. (Volunteers), moved:—

That in the opinion of Convocation it is the duty of the Manchester University authorities to give every support to Mr. Haldane's Territorial Army scheme.

The meeting, he said, was not asked to discuss the scheme politically or to consider its merits or demerits. It had passed through Parliament and would come into force on April 1st next. In East Lancashire the county association was expected to provide a division—i.e., about 19,600 men. Dr. Ashton thought that the University had not in the past shown the interest in the Volunteer movement which he could have wished. "There were about 1100 students and only 135 volunteers," and among the teaching staff—about 200—only three held commissions, and he wanted to see more of the students and more of the teaching staff engaged in the scheme. One gentleman, as an American "outlander," thought that all the students would be the better for "military drill and discipline," and there is no doubt whatever that he gave utterance to a truth. Whether his further view that "for a large number of students military drill would be of

considerably more value than any two courses of lectures they were likely to get in one week" is a matter which need not be considered here. The voting showed pretty clearly the feeling of the meeting, 19 votes being for the motion and 4 against. A certain amount of satisfaction at this result in favour of preparation for defence may perhaps be allowed, even in these days of cosmopolitanism.

Feb. 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Health Report of Cardiganshire.

ALTHOUGH the insanitary conditions which prevail in certain parts of Cardiganshire have been the subject of investigation by the medical inspectors of the Local Government Board upon various occasions the county council has never taken any steps in the direction of remedying those conditions. It is possible that individual members of the council may excuse this inaction on the plea of ignorance of the circumstances; such excuse will, however, no longer avail, for there has recently been issued a summary of the annual reports for 1906 of the district medical officers of health which has been compiled by Mr. Evan Evans, D.P.H. The very forcible manner in which attention is drawn in the summary to the prevalence of pulmonary tuberculosis in the county ought to awaken the council to a sense of its responsibilities. During 1906 the death-rate from this disease in the whole county was 2·6 per 1000, compared with 1·6 in Merionethshire and 0·8 in Monmouthshire. In Aberystwith rural district the death-rate was as high as 4·3 per 1000 and in the Cardigan rural district it was 3·2 per 1000. Mr. Evans considers that the migration of the healthiest and most vigorous individuals to other districts and the return home of those infected elsewhere is a considerable factor in this high death-rate. Other causes are insanitary dwellings and an insufficient dietary, for from nearly all districts comes the same tale—closed windows at night and staple dietary of bread and butter. There does not appear to be any form of disinfection of the dwellings of patients suffering from pulmonary tuberculosis either before or after a death. Now that the attention of the county council has been drawn to the very unenviable position occupied by Cardiganshire with regard to the prevalence of this disease the claims of the Allt-y-mynydd Sanatorium ought to be responded to generously. It is difficult to believe that the chief administrative body, which includes among its members four medical practitioners, will remain inactive after the disclosures which have now been made public.

Medical Inspection of Schools in Cardiff.

Upon the recommendation of the medical officer of health, Dr. E. Walford, a subcommittee has advised the Cardiff education committee to appoint two medical assistants, each at a salary of £250 per annum, to devote the whole of their time to the services of the committee, acting under the direction of the medical officer of health who, as chief medical officer to the education authority, will organise, supervise, and assist in the work of medical inspection, report upon the results of the inspections, and be generally responsible to the committee for all the medical and sanitary matters connected with the public elementary schools in the town. Two women inspectors, each of whom is a trained nurse and a certificated inspector of nuisances, have been employed for some time past in the health department of the Cardiff corporation and Dr. Walford suggests that they could assist in filling in the schedules connected with each medical examination and without attempting anything like medical treatment could be most useful in visiting the houses of defective children and bringing home to the parents a full sense of their responsibilities with regard to their children. Dr. Walford thinks that in most cases tactful advice and useful counsel are most urgently required and that generally the parents of defective children would be ready and willing to take steps themselves to bring about the physical improvement of their children if they only knew what steps were necessary. He further pointed out to the committee that without any direct medical treatment on the part of the education authority much physical improvement might be effected by a greater attention to the sanitation of the school buildings and by the improvement in the environment of the scholar which would result from the more frequent visits of a medical man.

Tuberculosis in Herefordshire.

For several years past a branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis has been doing good work in Herefordshire. Popular lectures have been given in different parts of the county and in other ways there has been disseminated information as to the means by which tuberculous disease may be prevented. The death-rate from pulmonary tuberculosis in the county, as a whole, is not high, for many years past having averaged 1·0 per 1000, but in some parishes the rate is as high as 2·5 per 1000, and it has been estimated that there are at the present time about 500 persons suffering from this disease in the county. At the last meeting of the county council the general purposes committee was instructed to report as to the practicability of establishing a sanatorium for incipient cases of tuberculosis. The suggestion appears to be that a sanatorium should be established by the various boards of guardians in the county and that they should pay to a central fund the cost of maintaining pauper patients in the sanatorium.

Breathing Apparatus in Coal Mines.

The colliery owners of Monmouthshire and South Wales have recently been considering a scheme for establishing central rescue stations in various parts of these coalfields. It has been suggested that there should be 13 such stations in the Rhondda valleys, the Merthyr and Aberdare valleys, Garw and Ogmore valleys in Glamorgan and in the eastern and western valleys in Monmouthshire. The estimated cost of each station is £2000 and £500 for the equipment together with £500 annually for the maintenance. The particular apparatus to be used has not been decided upon, for it is hoped that inventors of different forms will demonstrate their usefulness to a committee of the coalowners which has been formed for the purpose of giving practical effect to the project.

Typhus Fever in Monmouthshire.

When reporting upon a fatal case of typhus fever which had occurred in the urban district of Ebbw Vale in Monmouthshire, Mr. J. W. Davies, the medical officer of health, stated that in his opinion it was due to overcrowding and filthy surroundings. There was only one bedroom in the house occupied by the patient, the other occupants being a man and his wife and three children. It appears that the house concerned, together with those adjoining, had already been condemned as uninhabitable and the tenants were living in them rent free until other dwellings could be found.

Feb. 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Friction at Ruchill Fever Hospital, Glasgow.

CONSIDERABLE disquietude has been aroused in the public mind in Glasgow owing to the evidences of serious friction which have become apparent recently among the staff at Ruchill Hospital. 14 months ago a new matron was appointed to the hospital and it seems that subsequently to that the nurses, of whom there are about 150 employed in the institution, made complaints, alleging that the hospital was understaffed and that the nurses were overworked. These complaints were embodied in a letter addressed on Sept. 30th by the five assistants forming the resident medical staff to the physician-superintendent of the hospital. The main allegations put forward in the letter were: (1) an insufficient number of nurses in certain wards; (2) an insufficient number of sisters, or charge nurses: (3) inexperienced nurses in charge of wards; and (4) inefficient ambulance administration. The superintendent is thereupon alleged to have informed them that in the domestic and nursing department of the hospital he had no jurisdiction over the matron. A letter of complaint was then addressed to the town clerk on Nov. 27th. Soon thereafter a notice was posted at the hospital intimating that an inquiry would be held by the sub-committee of the hospital which stated that it would receive any statement which a sister or nurse wished to make regarding the conduct of the hospital. Thereupon 105 of the nursing staff wrote offering to testify and a number of these were examined. Before Christmas the inquiry was

stopped and efforts were made to restore harmony, but without effect. Later, it is stated, the sub-committee informally requested the physician-superintendent to dismiss three of the assistants and that he declined to do so, as he had no complaint against them. On Jan. 7th, however, the three assistants received a letter from the medical officer of health of Glasgow dismissing them. This "dismissal" the resident physicians refused to accept but eventually left the hospital under protest. The final stage in the episode so far is an intimation to the town clerk from the Local Government Board stating that the Board has received a memorial from the resident physicians at Ruchill Hospital praying the Board to institute an inquiry into the conditions existing at the hospital. The statements in the memorial appear to the Board to constitute a *primâ-facie* case for inquiry by it in the interests of public health. Before coming to a decision, however, it has deemed it advisable to hold a preliminary investigation with the view of ascertaining whether the circumstances call for a full and detailed inquiry. With this object it has appointed Dr. Henry H. Littlejohn, professor of forensic medicine in the University of Edinburgh, a commissioner to inquire and report. As a result of Professor Littlejohn's preliminary report the Local Government Board has intimated that it has appointed Mr. Donald Crawford, K.C., sheriff of Aberdeenshire, a commissioner "to inquire and report upon the complaints of overcrowding and understaffing of Ruchill Fever Hospital and on the administration and management of the hospital."

The Epidemic of Enteric Fever in Glasgow.

The epidemic of enteric fever in the west-end of Glasgow seems to be now on the wane and it is not expected that many more cases will be reported. At the time of writing, however, there are 156 cases of enteric fever in the city as compared with 139 in the previous week, and of these 90 have been traced to the same source, a contaminated milk-supply.

The New Convalescent Home at Edzell.

On Jan. 13th a meeting of the managers of the Montrose Asylum and Infirmary was held to discuss an unfortunate hitch which has occurred in connexion with the building of the new convalescent home at Edzell. The meeting, which lasted about one and a half hours, was held in private. Considerable progress has already been made with the building, which was estimated to cost £2500. The building operations are, however, at present suspended and at the meeting the managers heard lengthy correspondence on the subject and also a report by Mr. John Sim, the architect. After free discussion the managers unanimously decided that no arrangement would satisfy them which did not involve the pulling down of the building.

Seaforth Sanatorium, Ross-shire.

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considerably more value than any two courses of lectures they were likely to get in one week" is a matter which need not be considered here. The voting showed pretty clearly the feeling of the meeting, 19 votes being for the motion and 4 against. A certain amount of satisfaction at this result in favour of preparation for defence may perhaps be allowed, even in these days of cosmopolitanism.

Feb. 4th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Health Report of Cardiganshire.

ALTHOUGH the insanitary conditions which prevail in certain parts of Cardiganshire have been the subject of investigation by the medical inspectors of the Local Government Board upon various occasions the county council has never taken any steps in the direction of remedying those conditions. It is possible that individual members of the council may excuse this inaction on the plea of ignorance of the circumstances; such excuse will, however, no longer avail, for there has recently been issued a summary of the annual reports for 1906 of the district medical officers of health which has been compiled by Mr. Evan Evans, D.P.H. The very forcible manner in which attention is drawn in the summary to the prevalence of pulmonary tuberculosis in the county ought to awaken the council to a sense of its responsibilities. During 1906 the death-rate from this disease in the whole county was 2·6 per 1000, compared with 1·6 in Merionethshire and 0·8 in Monmouthshire. In Aberystwith rural district the death-rate was as high as 4·3 per 1000 and in the Cardigan rural district it was 3·2 per 1000. Mr. Evans considers that the migration of the healthiest and most vigorous individuals to other districts and the return home of those infected elsewhere is a considerable factor in this high death-rate. Other causes are insanitary dwellings and an insufficient dietary, for from nearly all districts comes the same tale—closed windows at night and staple dietary of bread and butter. There does not appear to be any form of disinfection of the dwellings of patients suffering from pulmonary tuberculosis either before or after a death. Now that the attention of the county council has been drawn to the very unenviable position occupied by Cardiganshire with regard to the prevalence of this disease the claims of the Allt-y-mynydd Sanatorium ought to be responded to generously. It is difficult to believe that the chief administrative body, which includes among its members four medical practitioners, will remain inactive after the disclosures which have now been made public.

Medical Inspection of Schools in Cardiff.

Upon the recommendation of the medical officer of health, Dr. E. Walford, a subcommittee has advised the Cardiff education committee to appoint two medical assistants, each at a salary of £250 per annum, to devote the whole of their time to the services of the committee, acting under the direction of the medical officer of health who, as chief medical officer to the education authority, will organise, supervise, and assist in the work of medical inspection, report upon the results of the inspections, and be generally responsible to the committee for all the medical and sanitary matters connected with the public elementary schools in the town. Two women inspectors, each of whom is a trained nurse and a certificated inspector of nuisances, have been employed for some time past in the health department of the Cardiff corporation and Dr. Walford suggests that they could assist in filling in the schedules connected with each medical examination and without attempting anything like medical treatment could be most useful in visiting the houses of defective children and bringing home to the parents a full sense of their responsibilities with regard to their children. Dr. Walford thinks that in most cases tactful advice and useful counsel are most urgently required and that generally the parents of defective children would be ready and willing to take steps themselves to bring about the physical improvement of their children if they only knew what steps were necessary. He further pointed out to the committee that without any direct medical treatment on the part of the education authority much physical improvement might be effected by a greater attention to the sanitation of the school buildings and by the improvement in the environment of the scholar which would result from the more frequent visits of a medical man.

Tuberculosis in Herefordshire.

For several years past a branch of the National Association for the Prevention of Consumption and Other Forms of Tuberculosis has been doing good work in Herefordshire. Popular lectures have been given in different parts of the county and in other ways there has been disseminated information as to the means by which tuberculous disease may be prevented. The death-rate from pulmonary tuberculosis in the county, as a whole, is not high, for many years past having averaged 1·0 per 1000, but in some parishes the rate is as high as 2·5 per 1000, and it has been estimated that there are at the present time about 500 persons suffering from this disease in the county. At the last meeting of the county council the general purposes committee was instructed to report as to the practicability of establishing a sanatorium for incipient cases of tuberculosis. The suggestion appears to be that a sanatorium should be established by the various boards of guardians in the county and that they should pay to a central fund the cost of maintaining pauper patients in the sanatorium.

Breathing Apparatus in Coal Mines.

The colliery owners of Monmouthshire and South Wales have recently been considering a scheme for establishing central rescue stations in various parts of these coalfields. It has been suggested that there should be 13 such stations in the Rhondda valleys, the Merthyr and Aberdare valleys, Garw and Ogmore valleys in Glamorgan and in the eastern and western valleys in Monmouthshire. The estimated cost of each station is £2000 and £500 for the equipment together with £500 annually for the maintenance. The particular apparatus to be used has not been decided upon, for it is hoped that inventors of different forms will demonstrate their usefulness to a committee of the coalowners which has been formed for the purpose of giving practical effect to the project.

Typhus Fever in Monmouthshire.

When reporting upon a fatal case of typhus fever which had occurred in the urban district of Ebbw Vale in Monmouthshire, Mr. J. W. Davies, the medical officer of health, stated that in his opinion it was due to overcrowding and filthy surroundings. There was only one bedroom in the house occupied by the patient, the other occupants being a man and his wife and three children. It appears that the house concerned, together with those adjoining, had already been condemned as uninhabitable and the tenants were living in them rent free until other dwellings could be found.

Feb. 4th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Friction at Ruchill Fever Hospital, Glasgow.

CONSIDERABLE disquietude has been aroused in the public mind in Glasgow owing to the evidences of serious friction which have become apparent recently among the staff at Ruchill Hospital. 14 months ago a new matron was appointed to the hospital and it seems that subsequently to that the nurses, of whom there are about 150 employed in the institution, made complaints, alleging that the hospital was understaffed and that the nurses were overworked. These complaints were embodied in a letter addressed on Sept. 30th by the five assistants forming the resident medical staff to the physician-superintendent of the hospital. The main allegations put forward in the letter were: (1) an insufficient number of nurses in certain wards; (2) an insufficient number of sisters, or charge nurses: (3) inexperienced nurses in charge of wards; and (4) inefficient ambulance administration. The superintendent is thereupon alleged to have informed them that in the domestic and nursing department of the hospital he had no jurisdiction over the matron. A letter of complaint was then addressed to the town clerk on Nov. 27th. Soon thereafter a notice was posted at the hospital intimating that an inquiry would be held by the sub-committee of the hospital which stated that it would receive any statement which a sister or nurse wished to make regarding the conduct of the hospital. Thereupon 105 of the nursing staff wrote offering to testify and a number of these were examined. Before Christmas the inquiry was

stopped and efforts were made to restore harmony, but without effect. Later, it is stated, the sub-committee informally requested the physician-superintendent to dismiss three of the assistants and that he declined to do so, as he had no complaint against them. On Jan. 7th, however, the three assistants received a letter from the medical officer of health of Glasgow dismissing them. This "dismissal" the resident physicians refused to accept but eventually left the hospital under protest. The final stage in the episode so far is an intimation to the town clerk from the Local Government Board stating that the Board has received a memorial from the resident physicians at Ruchill Hospital praying the Board to institute an inquiry into the conditions existing at the hospital. The statements in the memorial appear to the Board to constitute a *primâ-facie* case for inquiry by it in the interests of public health. Before coming to a decision, however, it has deemed it advisable to hold a preliminary investigation with the view of ascertaining whether the circumstances call for a full and detailed inquiry. With this object it has appointed Dr. Henry H. Littlejohn, professor of forensic medicine in the University of Edinburgh, a commissioner to inquire and report. As a result of Professor Littlejohn's preliminary report the Local Government Board has intimated that it has appointed Mr. Donald Crawford, K.C., sheriff of Aberdeenshire, a commissioner "to inquire and report upon the complaints of overcrowding and understaffing of Ruchill Fever Hospital and on the administration and management of the hospital."

The Epidemic of Enteric Fever in Glasgow.

The epidemic of enteric fever in the west-end of Glasgow seems to be now on the wane and it is not expected that many more cases will be reported. At the time of writing, however, there are 156 cases of enteric fever in the city as compared with 139 in the previous week, and of these 90 have been traced to the same source, a contaminated milk-supply.

The New Convalescent Home at Edzell.

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officer from office unless for good and sufficient reasons. It was then moved and seconded—

That in view of the resolution carried at last meeting with reference to the medical officer and without prejudice to the pleas of the council as to the regularity and validity of his appointment the council resolve to dispense with the services of Dr. Brown on three months' notice, and the clerk be, and hereby is, instructed to give Dr. Brown, under reservation of the said pleas, three months' notice of dismissal; and further that the council direct the clerk to advertise the vacancy in terms of the regulations.

This motion was carried. The chairman thereupon handed in a protest stating that the dismissal of Dr. Brown constituted a breach of the council's contract with him. The protest further stated that, on behalf of Mr. A. H. Farquharson of Invercauld, and on his own behalf, he protested against the parish assessments being employed in expenditure connected with any action which might be taken as a result of this breach of contract, and held those who voted for the motion as liable to recoup him in any loss or damage which he might sustain. Two other members of the council also handed in protests. Dr. Brown laid on the table a protest which was read by the chairman. In this he declined to accept notice of dismissal from the council on the ground that he held his appointment from Feb. 23rd, 1907, and that the council had failed to give him the six weeks' notice which was declared by the Local Government Board to be necessary. He also declined to take delivery of any letter containing such notice of dismissal.

Feb. 3rd.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The late Lord Kelvin.

Lord Kelvin was certainly one of the most distinguished men to whom Ireland has ever given birth and it is fitting that a statue should be raised to him in his native city of Belfast. A sum of nearly £1000 has been subscribed for the purpose as the result of a public meeting.

The Royal College of Surgeons in Ireland.

The annual dinner of the College took place on Feb. 1st at the College, Sir Henry R. Swanzy, the President, being in the chair. The toast of "The College" was proposed by Dr. J. Magee Finny, President of the Royal Academy of Medicine of Ireland, and was responded to by Sir Henry Swanzy who took legitimate pride in pointing out the many improvements that had recently been made in the medical school attached to the College.

Death of Professor Antony Roche.

The death is announced of Mr. Antony Roche, professor of medical jurisprudence in the Catholic University and examiner at the Royal University of Ireland. Professor Roche took great interest in sanitary science and made many interesting communications to THE LANCET.

Sanatorium for the County of Cork.

In the year 1902 the various public boards of the county of Cork agreed to submit to a rate of 1*d.* in the £ for the erection and maintenance of a sanatorium for consumptives. Since then the project has undergone many vicissitudes. The conjoint board first selected a site at Marsytown, near Macroom, but the Local Government Board refused to approve of it on the grounds that it was unsuitable for the purpose. The next site proposed was Myshall, but as a river from which some of the water-supply comes for Cork would bound the proposed grounds of the sanatorium the Cork town council appeared by counsel at the Local Government Board inquiry and offered strenuous opposition to the adoption of the site. Again the Local Government Board entered a *non possumus*. Then Mr. Brazier-Creagh, a member of the conjoint board, offered a free site at Streamhill, near Doneraile, and his colleagues, mindful of their previous experiences, decided on casting as far as possible on the shoulders of the Local Government Board the onus of selecting a site and accordingly requested that body to send two of its inspectors to visit the lands offered by Mr. Brazier-Creagh. The Local Government Board acceded to the request and a week ago an inquiry was held by Dr. E. C. Bigger and Mr. Cowen, C.E., the two inspectors who had visited the proposed site and had apparently approved of it. It was not considered necessary to produce any medical evidence in favour of the site but it was soon found that a number of people residing in the neighbourhood of Streamhill were opposed to the project, and it was urged that the expectorations of the patients could find their way into an adjoining river and spread the disease amongst the inhabitants and their cattle. Lord Castletown and Mr. Harold-Barry of Ballyvonare, landlords who have extensive holdings near Streamhill, also objected on the ground that their properties would be injured. An engineer gave evidence that the soil on which it is proposed to build the sanatorium is peaty and retentive, and Mr. Harold-Barry said that it is bog over which he shot snipe. Professor H. Corby stated that the fact of it being a bog would at once condemn it. He also expressed the opinion that the sanatorium treatment is so comparatively valueless that it is a pity a large sum of the ratepayers' money should be expended on the erection of a sanatorium in any part of the county. Some witnesses were then examined who gave evidence in favour of the site and the inquiry terminated. It is believed that the recent report of the Local Government Board of England on the sanatorium treatment of consumption will influence the Cork conjoint board in abandoning the project of erecting a sanatorium for the county.

Poor law Administration in Belfast.

At a meeting of the Belfast board of guardians on Jan. 14th it was reported by the clerk that the estimates for the year ending March 31st, 1908, showed an increase of £3959, due to the large number of inmates, especially infirmary patients, there being an increase of nearly 400 patients. There was an increase of 200 in those requiring medical treatment and an increase of 72 in children. In clothing the average weekly cost had gone up from 6½*d.* per week to 9*d.* Then outdoor relief would reach £1670 for the current half-year and a total of £3601 for the year, and taking the increase to go on progressively it would be almost £4000 and a rate of 1*s.* 1*d.* in the pound would be needed in the forthcoming year. It must be candidly admitted that such figures raise among many the suspicion that the Poor-law system is not what it should be in Belfast. Why should pauperism increase in Belfast where for the past three or four years trade has been brisk? It would seem as if among some of the poor the spirit of independence, which formerly at least prevailed and which prevented them accepting assistance from the workhouse unless sheer want drove them into it, is gone. Then the workhouse system really encourages pauperism owing to the fact that the inmates are now better housed, better fed, and better cared for than a large proportion of the poorer ratepayers. Such a state of affairs is really a direct incentive to many lazy, idle people to join the pauper ranks and it imposes an almost unbearable burden on those who are just on the border-line of pauperism. Again, the increase in the infirmary patients is one of those weak points in the Poor-laws that require to be remedied, as it is surely wrong that struggling ratepayers should have to pay for the treatment of those who might reasonably be called upon to discharge their own liabilities. An increase in the cost of clothing—almost to one-third—is very extraordinary, and considering the industrial conditions of Belfast an outdoor bill of £3600 is really preposterous and contrary to the recommendations of Mr. Agnew, the Local Government Board inspector. In the Belfast workhouse there is the population of a small town (4028 inmates were in it a week ago). How many of the lazy, idle men and women in this institution do anything (as occurs in Switzerland and other continental countries) for their upkeep? The ratepayers of Belfast are beginning to see that the guardians must exercise much more discrimination in the administration of relief.

The Consumption Dispensary in Belfast.

At a meeting of the city council of Belfast in committee held on Jan. 20th it was decided after some discussion to agree to an arrangement by which the Forster-green Hospital for Consumption will undertake to open a dispensary in the city or, in other words, an out-patient department, on the understanding that the corporation takes ten beds in addition to the 25 already provided and pays at the rate of £1 15*s.* a week for each additional bed, with the proviso that in case any of the said ten beds should be vacant the corporation is to be given credit for each such bed at the rate of 15*s.* per week for the time such vacancy shall continue, the agreement to be for one year with the option of renewing it at the end of that period. This new development will cost, it is said, almost £3000 per annum.

Feb. 4th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Disinfection of Uniforms.

WITH a view to avoid the risks of the transmission of infectious diseases throughout the army by means of every-day kit the Minister for War has ordered that disinfection shall be obligatory for all articles commonly in use, whether before their return into store or before they have been handed over from one man to another without being returned to store. The regulations now applicable to the use of formaldehyde vapour shall henceforward be applicable to headgear, boots or shoes, and spats.

Poisonous Milk from Cows Fed on Beet.

At a meeting of the Pædiatric Society held on Jan. 21st M. Decherf mentioned that an epidemic of acute enteritis had broken out in November among the children who attended his clinique at Tourcoign. No obvious cause appeared for this, as all the milk had been sterilised in the usual way. Inquiry eventually showed that owing to the lack of ordinary forage the cows had been fed upon beet leaves and red cabbage, vegetables which are well known to give both milk and butter a particular flavour. M. Decherf added that he had noticed a similar epidemic in the September of 1903. In this case it was due to the cows having been fed upon beet which had been kept in silos during the summer and which had fermented. The enteritis due to this cause presents the same features as that caused by microbe-infected milk but feeding by skim milk, which has a favourable effect upon microbial enteritis, has no effect upon toxic enteritis.

Expert Medical Evidence and the Criminal Law in France.

At a meeting of the Academy of Medicine held on Jan. 21st M. Thoinot and M. Lacassagne communicated a paper in which they pointed out how very little guarantee expert evidence under the present regulations offered to an accused man. If the diploma of doctor gives the holder the right to be summoned by the court as an expert it is no guarantee of his competence to act as such. Reforms as to the status of the medico-legal experts have been demanded for some time and a Bill to this effect has been before the Senate since 1899. M. Thoinot and his colleague ask that every condition should be exacted from expert witnesses so as to guarantee their competence and that legislation to this effect should be forthcoming.

The Cholera.

The greatest mortality from cholera takes place in India either in the height of summer or in the depth of winter. At the present time cholera imported from India is present at Mecca. After the Bairam festival, which this year occurred about Jan. 15th, there was reason to fear that the return of pilgrims would rapidly infect Mesopotamia, Persia, and Egypt. Another source of infection to be feared is that when the Hedjaz railway is completed it will bring Medina within four days of Damascus, thus doing away with the barrier, hitherto almost insurmountable, which the passage of the desert has offered. At the same meeting of the Academy of Medicine M. Chantemesse and M. Borel communicated a paper in which they said that the pilgrim routes, whether by sea or land, should be under strict supervision.

Statistics of Diphtheria.

At a meeting of the Hospitals Medical Society held on Jan. 7th M. Marfan gave the statistics of the diphtheria block at the Hospital for Sick Children from May 1st, 1906, to the same date in 1907. Of 789 patients admitted to the block 555 were suffering from diphtheria. Of these 555 patients the total mortality was 10·45 per cent. and the corrected mortality (*mortalité réduite*) 6·4 per cent. It will be seen, therefore, that the notable diminution in the mortality from the disease which has been observed of late years is fully maintained.

Sleeping Sickness in a White Man.

At a meeting of the Hospitals Medical Society held on Jan. 31st M. Guillain and M. Martin showed a man who had been attacked in the Congo with sleeping sickness, the diagnosis having been confirmed by the finding of trypanosomata. After he arrived in Paris paralysis with atrophy of the arm supervened, the characteristics being similar to those observed in syphilitic paraplegia. The groups of muscles specially affected were those of the thenar and hypothenar eminences. There were also present affections of sensation, exaggerated patellar reflex, Babinski's sign on the left side, and some modifications of the electrical reactions. All the symptoms disappeared after treatment with atoxyl. The presence of the trypanosoma in this case made it easy to eliminate all the other causes to which the symptoms might have been due. The atoxyl was administered as follows: first, one injection of 0·5 of a gramme; secondly, seven injections of 1 gramme; and finally, 11 injections of 0·5 of a gramme.

Feb. 4th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Brown Glasses as Eye Protectors.

IN a recent number of the *Revue Médicale de la Suisse Romande* Dr. Gonin has published his investigations on the use of coloured glasses to protect the eyes against the detrimental influence of strong light. He says that healthy persons only need these glasses when exposed to dazzling artificial light or when traversing snowfields and glaciers. The ultra-violet rays prove more detrimental to the conjunctiva than to the retina. Snow-blindness does not supervene suddenly as in the cases of blindness provoked by looking at the sun during an eclipse without the protection afforded by dark glasses. The retina is protected by the crystalline lens which absorbs ultra-violet rays (Widmark, Birch-Hirschfeld). Even the interposition of plain uncoloured glass acts as a protective to the retina. Dr. Gonin strongly recommends brown glasses as being capable of absorbing the greater part of the blue and violet rays without obscuring the vision, as in the case of the blue and black glasses which are generally in use. They have proved of special benefit to persons of a certain age with already diminished eyesight. Dr. Gonin has experimented with these glasses on Alpine tours and warmly recommends them; he has also found them useful in cases of retinitis pigmentosa, choroiditis, and neurasthenia with eye fatigue, whereas dark glasses are indicated when complete rest is necessary for the eye, as in the case of acute iritis, detachment of the retina, or atrophy of the optic nerve. In a communication to the Academy of Medicine Professor Motais of Angers has indicated four different shades of these brown glasses, and it is desirable that opticians should always adhere to the same formula.

Epidemic Cerebro-spinal Meningitis.

Dr. Charlotte Müller, assistant physician at the Medical Clinique of Zürich, has published lengthy details of 29 cases of so-called "epidemic" cerebro-spinal meningitis treated during the last two years under the care of Professor Eichhorst. The differential diagnosis between epidemic and tuberculous meningitis is insecure when resting only on clinical symptoms, though now and then the appearance of tubercles in the choroid and the absence of herpes febrilis determine the tuberculous origin of the brain affection. Neither chemical examination of the exudation nor microscopic examination of the blood supplies any definite information; this can only be obtained by bacteriological investigation, and even that may be misleading, as one fatal case proved. Out of 36 cases of purulent meningitis observed in the clinique 29 were due to the meningococcus of Weichselbaum, two had to be attributed to the diplococcus lanceolatus, three to the streptococcus mucosus (Schottmüller), one to the staphylococcus pyogenes aureus, and one to a doubtful form of diplococcus. Thus, 80 per cent. of all the cases were due to the epidemic variety of the disease, though there could be no question of an epidemic prevailing in and about Zürich, as the various cases had no connexion with each other. Some clinical symptoms seem of importance as regards diagnosis. Generally the spleen was not enlarged and in almost half the cases herpes febrilis was observed. In 26 out of 36 cases lumbar puncture was successfully performed. The serum treatment with anti-meningococcus serum, prepared by the Swiss Serum Institute according to the method of Kölle and Wassermann, proved ineffectual, as the rate of mortality of 75 per cent. was not influenced thereby.

Zürich, Feb. 2nd.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

The Italian Red Cross: A School for Female Helps.

THE otherwise admirably equipped Red Cross of Italy is admittedly defective in one important adjunct to its efficiency—an adjunct long possessed by the sister societies of the Red Cross in other countries—that of female helps. These helps are recruited from the class of ladies of good social position, whose education, already productive of refinement in manner and demeanour, has been specially enhanced by training in the *métier* of nurse. During the sanguinary Russo-Japanese war the lady-helps (*dame infermiere*) of both belligerents gave memorable proof of their good offices not only on the battlefield but on other occasions involving disaster—explosion or similar accidents in camp or quarters—inseparable from military operations. Of these offices, on the Russian side, the Italian representative Count Camperio was an assiduous witness and the account which he gave of them in a lecture delivered last year in Rome profoundly impressed the many interested in Red Cross organisation. The regional subcommittee of the "Croce Rossa Italiana" at once utilised the interest thus evoked by putting itself in communication with the central committee, and its initiative has now fructified in a "school" specially equipped for the training of lady-helps on the lines of the Russian and Japanese organisations—a school which will be officially opened to-day in the buildings of the military hospital on the Caelian Hill. Her Majesty Queen Elena is the patroness and at her instance an appeal has been addressed to the ladies of Rome to give the institution all the encouragement in their power. The response has already been more than gratifying and the present year will witness the start of a corps of "infermiere voluntarie" (volunteer lady-helps) which will place Italy on a level with her sisters in the one branch of Red Cross equipment in which she has hitherto been defective. The appeal—a lengthy but none the less impressive document—sets forth the programme of special instruction to be given on the Thursdays and Sundays of successive weeks throughout five months of the year between the hours of 3 and 6 P.M. The subjects taught will be essentially practical in their tenour, divided into four courses, and the teachers will be four officers, two of whom will be supplied by the War Office and two by the Red Cross Association. A final examination will give the successful examinee the right to the "Diploma di Infermiera della Croce Rossa Italiana," together with a "medaglia di riconoscimento" (medal of recognition) bearing the emblem of the Geneva Convention and the name of the holder of the diploma. Every such holder will be morally obliged to be in readiness for every call in case of the mobilisation of the Italian Red Cross. Other duties are specified in the programme of qualification but as these are identical with those imposed by the Red Cross societies of other nations they need not be detailed here. The school, I may add, will be under the direction of Lieutenant-Colonel Parisi, director of the military hospital of Rome; of Dr. Postemski, principal medical inspector of the Italian Red Cross; of Colonel Panara, medical officer of the Reserve; of the Duchess Amalia Tortonia, of the Countess Camerana, and of the Countess Pelagallo di Marazzano. As I write, I am informed that the teaching staff will consist of the Chevalier Professor Giovanni Memmo and Dr. Umberto Riva of the Army Medical Department, and of the Chevalier Dr. Augusto Bisso and the Chevalier Dr. Bonaventura Pasca, medical captains of the Red Cross.

"Frost-bite and Wolf-bite."

If up to now the winter on the Italian slopes of the Alps has been comparatively mild—so mild as to tempt some of the Piedmontese Alpine Club to arduous expeditions—the same cannot be said of the southern ranges of the Apennines. This time last year THE LANCET, under the above title, recorded the disastrous incursion of famished wolves into the haunts of man—one heard of them in the Abruzzi having, under stress of cold and hunger, assailed a linesman on the highway, and, in spite of his armed defence, torn him to pieces, leaving little besides his blood-stained sword to attest his fate. Further south last week in the Basilicata, not far from the town of Potenza, a similar tragedy well-nigh befel a wood cutter and his son driving home on a cart from the plantation. It was broad day—not the dusk of the evening, as in the former instance—when the two were assailed by wolves, the fiercest of which remained in single combat with the wood-cutter, while the others were being scared away by his son. The father, a man of powerful build and dauntless courage, grappled with the brute, and after a desperate struggle succeeded in pinning it to the ground. The wolf, however, still made formidable fight, and to such effect that the wood-cutter, already severely bitten and losing blood, might have got the worst of it had not his son opportunely fetched him an axe from the vehicle. With this he dealt the brute a decisive blow and the struggle was at an end—leaving him, however, as stated, horribly lacerated, particularly in the hands, a proper subject for the Pasteur Institute. The Government, it is suggested, might offer a prize for each of these dangerous animals brought in dead, and this would be a finer, and also a more serviceable, sport than the steady destruction of the chamois, which is rapidly disappearing from Alpine Italy, till it bids fair to live only in Carducci's magnificent ode, entitled "Il Piemonte."

Feb. 2nd.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Medical Inspection of Schools.

THE Ministry of Education, in which medical influence is undoubtedly active, has again issued an order dealing with hygienic measures to be adopted in regard to the supervision of schools. School hygiene is to be regarded as an integral part of the sanitary administration of the different counties and the reports sent in by the respective boards will have to show clearly to what extent schools are visited by medical men at regular periods. The order enables the local authorities to appoint visiting medical officers for the schools, especially for the so-called elementary schools, in which children from six to 14 years of age receive instruction. The order empowers them also to institute medical supervision in infants' schools (where the ages of the children are from four to six years), in technical schools, and in commercial schools. A suggestion as to the time of inspection of the children is given. The medical officer must examine new pupils on their first arrival and must afterwards visit the schools at intervals of about four or six months, unless a local outbreak of epidemic disease, such as parotitis, measles, scarlet fever, or diphtheria, makes it advisable to pay more frequent visits. Special attention is to be given to diseases of the eye, ear, throat, and teeth, as well as to the ventilation and the lighting of the class-rooms. The expenditure will be borne by the ratepayers and the Government. The school medical officer will not undertake the treatment of the little patients but his work will be rather of a preventive nature. The fees for treatment have to be found by the parents or friends. Another memorandum just issued deals with the care of feeble-minded or crippled children and with the proper treatment and care of the deaf and dumb. There is good provision for this class of defectives in Austria and the Ministry of Education only calls the attention of teachers to its existence. For the higher classes of the public schools gymnastics are recommended as an antidote to the ill-effects of the demands made by modern education on the mental faculties.

A Case of Lymphatic Leukæmia with Chylothorax.

At a recent meeting of the Medical Society Dr. Strasser showed a man who had been suffering from diarrhœa and swollen glands for some time previously to his admission to hospital. A cubic millimetre of his blood contained 4,000,000 erythrocytes and 437,000 leucocytes, of which 98 per cent. were lymphocytes. A few weeks after admission the hæmoglobin index, which had been constantly 74 per cent., sank still lower, and he had a sudden attack of dyspnœa, caused by accumulation of fluid in the right pleural cavity. Puncture had to be performed twice, the fluid which was withdrawn being turbid and yellowish in colour with a specific gravity of 1·16; it contained 7 per cent. of albumin and 3 per cent. of fat with some sugar, and was, in fact, typical chyle. Although the exudation reached to the level of the third rib the heart was not displaced, a condition which Dr. Strasser thought was due to infiltration of the pleura making it rigid. The chylothorax was caused either by bursting of the

thoracic duct consequent on the pressure of leukæmic glands or by injury of the duct through sarcoma. The patient was submitted to a course of x ray treatment. The long bones, the spleen, and the glands were exposed to the rays, and the leucocytes fell to 5000 per cubic millimetre after a few weeks. Such cases where the lymphocytes were so abundant were liable to develop malignant disease, mostly of a sarcomatous nature. An interesting property of the pleuritic effusion was that it counteracted the effect produced by adrenalin on the pupil of the eye, whether that of the patient or of an animal. This fact might perhaps in future be made use of to ascertain the nature of doubtful pleuritic effusions.

Cerebro-spinal Meningitis and Deafness.

The epidemic of cerebro-spinal meningitis which occurred in Vienna in 1907 gave Dr. Alt an opportunity of studying its effects on the auditory organs and he recently communicated his results to the Gesellschaft der Aerzte. He examined 60 patients, of whom 9 died without a functional examination being possible. Of the 51 remaining patients 12 became completely deaf, 15 died later, 15 regained full health and hearing, and 9 suffered more or less serious damage. Deafness appeared as an early symptom within the first four days, but in a few cases it came on later; in three cases it supervened after the disease was practically over. The vestibular organs were affected in a high degree. All those who became deaf had an unsteady gait, with vertigo and other disturbances of coördination, until they learned to control their gait through the medium of the other senses, especially that of sight. Microscopic examination of the internal ear constantly showed purulent disease of the labyrinth, the cochlea and the semicircular canals, whilst the nerves were infiltrated and the bony labyrinth was in many cases filled with newly formed connective tissue. The patients who survived and became deaf showed not the least change in the tympanic membrane and functional examination of these patients revealed complete absence of perception of spoken words, musical sounds, or noises, deafness being complete in consequence of the destruction of the inner ear.

Primary Syphilitic Sore of the Nose.

A very rare case of extra-genital syphilis was shown by Dr. Menzel at the same meeting of the above society. The patient was a young man who had for three weeks been complaining of a swelling of the nose. The appearance of the affected part suggested simple abscess or furuncle. Examination of the nares revealed an elliptic, hard, well-defined, prominent nodule, with an ulcer of a lardaceous appearance on the top of it. The infiltration measured about three-quarters of an inch in all diameters. The relative absence of pain, the short duration and the presence of hard indolent glands in the submaxillary region confirmed the diagnosis of specific ulcer. A few days later a typical syphilitic exanthem appeared on the trunk, whilst no trace of any other primary lesion was discoverable. Spirochætæ were found in some of the particles removed for that purpose from the ulcer, so that the diagnosis was unquestionable. Only 25 cases of similar primary infections have been recorded and it was remarkable that nearly all of them were after a short time followed by severe syphilis of the brain; in fact, most dermatologists were agreed that extra-genital syphilis, especially in the head and face, often led very quickly to cerebral lesions. This has been explained by Fournier and Mobl as being due to the fact that in these cases the virulence of the spirochæta was not attenuated as it otherwise was by passing through glands.

Influenza in Vienna.

During the month of December, 1907, and January of the present year, when changes of weather were unusually rapid and frequent, influenza was very prevalent in Vienna, but as a rule the disease ran a very mild course, either because the virulence of the micro-organism was diminished or because the population was already to some extent immunised. The infection was present everywhere and assumed a bronchitic type with complications affecting not only the accessory sinuses of the nose but also the intestinal canal. About 11,000 cases were reported in one week, but the diagnosis was hardly ever confirmed by bacteriological examination. The disease took the shape of a pandemic, all the larger towns in Central Austria suffering alike, so that public offices, schools, and even post-offices had to be closed temporarily. The attack, however, generally passed away in from four to six days.

Feb. 1st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Rank of Medical Officers in the Navy.

THE resignation of the chief officer of the Bureau of Navigation makes public a controversy in official naval circles in regard to the rank of medical officers in charge of hospital ships. It appears that the head of the Bureau, a rear admiral, contended that these ships should be in command of a line officer and the surgeon should be in charge of the sick only. The Surgeon-General of the Navy endeavoured to have the rule established that a hospital ship should be in command of the surgeon who should have a corresponding rank. A joint board of the army and navy medical officers convened more than a year ago by executive order to unify the medical services as much as possible recommended that hospital ships should be commanded by medical officers, and the recommendation was approved by both the Secretary of War and the Secretary of the Navy in general orders. Accordingly, in the army all hospital ships and medical transports are placed under the Surgeon-General but in the navy the opposition has continued, and in the preparation of the naval medical supplies for the fleet now on the way to the Pacific the question of the position of commander of hospital ships assumed an acute form which was closed by the decision of the President in favour of the Surgeon-General of the Navy and the retirement of the head of the Bureau of Navigation.

Public Medical Lectures.

The Faculty of Harvard Medical College has organised a course of public lectures to be given on Sunday evenings and Saturday afternoons, which are holidays for the working public. The subjects selected for each lecture are of a popular character and are designed to entertain and to instruct the common people. The following are examples: Common Salt; Fatigue, its Effects and Treatment; Alcoholism and Insanity; Infant Feeding; Preventable Diseases of the Skin; and Foods in Health and Disease. The lectures are exciting popular interest and will result in stimulating other medical schools to undertake similar work and thus meet a great public want.

Hospital for Nervous Diseases.

The Department of Charities of New York has established a hospital for the exclusive treatment of diseases of the nervous system on Blackwell's Island. Its capacity is for 250 beds. It is reported that there are more than 1000 patients in the hospitals of the city awaiting admission, all of whom are suffering from various forms of nervous diseases which unfit them for treatment in general hospitals. The new hospital will be equipped with laboratories and all necessary appliances for diagnostic and therapeutic research, and for lectures and demonstrations in neurological science. This is the first hospital of the kind established in this country.

Use of Nostrums by Physicians.

At a meeting of the Philadelphia branch of the American Pharmaceutical Association a discussion arose on the prevalence of the custom of physicians to prescribe advertised nostrums the ingredients of which were unknown. The editor of a leading magazine, which excludes from its columns all nostrums, stated that the present agitation against advertising nostrums had the effect upon the public to make thousands of people absolutely opposed to them. The result is that in three years 18 nostrum manufacturers have gone out of business and two of the largest concerns are for sale. He added that to-day it is practically impossible to get nostrum advertisements into any reputable magazine and within a short time it will be almost impossible to get patent medicine advertisements into the religious weeklies. The next effort is to be centred on the provincial and urban daily newspapers. Dr. H. C. Wood attributed the continuance of the evil of nostrum medication to the leading members of the profession. It appeared on examination of 5000 prescriptions made in the year 1906 that there was 6 per cent. more patent medicine prescribed by leading physicians of Philadelphia than in 1905.

New Board to decide on Pure Food Rules.

Dr. Harvey W. Wiley of the United States Agricultural Department has heretofore made and enforced the rules

governing the manufacture of foods under the "Pure Food Laws." But his rulings have been severely criticised by dealers in foods. It is alleged by the fruit driers of California that the quantity of sulphur specified as the maximum by Dr. Wiley's decision is one-third that allowed in Germany which has the strictest food regulations of all countries. The complaints against Dr. Wiley's decisions are so numerous and urgent that the President has determined to appoint a commission of expert chemists who shall constitute a board to make a final decision on all of these questions. In order to secure the most competent chemists the President has requested the presidents of the universities of Johns Hopkins, Virginia, California, Yale, and the Northwestern of Chicago each to recommend a chemist whom he will appoint on a board which shall determine finally all questions arising under the law.

General Immigration Statistics.

Recently published statistics by the Immigration Restriction League show that during the year 1907 there were landed in this country 1,285,349 immigrants, the largest number received in any one year since 1821. The change in the national groups of immigration since 1869, a period of 37 years, is interesting. The percentage of immigrants, from Austria-Hungary, Italy, and Russia in 1869 was 0·9, and from the United Kingdom, France, Germany, and Scandinavia it was 73·8; in 1907 the former group was 71·3 per cent. and the second group 17·1 per cent. The change in the relative percentage of these two groups of immigrants began in 1896. The largest elements in immigration at present are as follows: Southern Italian, 242,497; Hebrew, 149,182; Polish, 138,033; German, 92,936; Magyar, 60,071; and Scandinavian, 53,425. The percentage of illiterates in total immigration was 23·9; the lowest percentage in each 100 immigrants over 14 years of age who cannot write and cannot read and write their own language was Scotch 1·0, and the highest percentage was Portuguese, 76·6. The present immigration law excludes the following classes:—The mentally unfit—viz., idiots, imbeciles, feeble-minded, and insane; the physically unfit—epileptics, tuberculous, and persons afflicted with a loathsome or contagious disease; the morally unfit—prostitutes, procurers, polygamists, anarchists, and convicts; the economically unfit—paupers, persons likely to become a public charge, professional beggars, contract labourers, and assisted emigrants. The number debarred and deported in 1907 was 14,059, or 1·1 per cent. of the total number of arrivals.

The Federal Employers' Liability Law Void.

For more than 20 years the railroad men of the United States have been struggling to secure a law which protected them from the accidents to which they are especially liable. The President urged the passage of such a Bill and at the last session of Congress it was finally passed and became law. The law was brief and provided for the extension of the employers' liability to all common carriers engaged in interstate commerce and practically abolished the "Fellow Servant" rule. The doctrine of contributory negligence was modified so as not to bar recovery where the negligence of the employee was slight and the negligence of the employer was gross in comparison—the newer doctrine of "comparative contributory negligence." On the passage of the law several railroads united to test its constitutionality, with the result that it has been declared unconstitutional by the highest court and is now void.

Jan. 25th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Melbourne Hospital.

THE question of a site for rebuilding the Melbourne Hospital remains unsettled, although it provides a topic for newspaper correspondence and has been the subject of several conferences between various bodies interested. Dr. J. W. Springthorpe is energetic in support of the proposal to rebuild on the present site, while Dr. R. R. Stawell expresses the opinion of the advocates for removal. At a meeting of the hospital medical staff a motion affirming the desirability of procuring a larger site was carried by 11 votes to five. The present block is about four acres in extent and the proposed new area, which is at present occupied by the pig and horse market, would be something between 12 and 14 acres, but it is about a mile farther out of the city. The opponents of removal assert that this extra distance is a serious drawback and that the site itself is dusty and exposed to the north winds. The advocates for a new site affirm that the present situation is too small for a modern self-contained hospital and clinical school, and that the "pig-market" block has the advantage of being in the immediate vicinity of the University Medical School. Under the terms of the gift of £100,000 for rebuilding purposes made by the trustees of the Wilson estate, the question of site had to be decided upon within six months. About four months of the term have already elapsed. The trustees also retained the right of approval of any site determined upon.

The Danysz Microbe.

Sir William Lyne is determined to carry out the Federal policy of "Australia for the Australians" even to denying admission to imported microbes. Dr. F. Tidswell has shown that the Danysz microbe, or one indistinguishable from it, is already known in New South Wales and has caused epizootics among rabbits. Sir William Lyne admits that this places a new aspect on the question of trying the Danysz method on the mainland, but states that it is certain that Parliament would never permit the liberation of the microbe introduced to Australia by Dr. Danysz. Meanwhile the pastoralists demand that a trial shall be made in the rabbit-infested areas of the interior.

St. Vincent's Hospital.

The engineering inspector of the Board of Public Health has reported that St. Vincent's Hospital, Melbourne, is "excessively overcrowded." St. Vincent's is the most recent hospital building in Australia and is fitted with every modern improvement. The present structure forms only a part of the whole design and under the Board's standard is available for 76 patients. At the time of the inspector's visit 124 patients were under treatment, patients being "placed in the balconies, in the lobbies, and other parts of the building not set apart for such a purpose." Dr. Norris (chairman of the Board of Health) remarked that the state of affairs was "nothing short of scandalous" and immediate action was ordered in the direction of a peremptory letter to the hospital authorities and a communication with the Board's solicitors. The hospital authorities have replied that so great has been the demand in urgent cases that they have been unable to turn them away and that the hospital is so equipped with balcony and corridor space that some patients can be temporarily accommodated there without inconvenience.

Infants' Food.

Recently at the Richmond (Victoria) police court tradesmen were fined with costs for selling well-known brands of infants' food in contravention of the Pure Foods Act. The editor of the *Chemist and Druggist* has written to the press to point out that the prosecution was for failure to state that the foods must not be used for infants under six months. The Pure Foods Act requires that infants' foods containing starch must be labelled or sold with the statement that they are not intended for children under the age of six months.

Home for Consumptives.

On Dec. 14th last the sanatorium for consumptive women was opened at Thirlmere, New South Wales, by the State Governor, Sir Harry Rawson. The site was devoted to the purpose originally by a Mr. Goodlet, but subsequently was placed under the management of the Queen Victoria Home for Consumptives. Eventually the site was purchased and with the new buildings has cost £10,000. It will accommodate 50 patients. Since the male wing was opened at King's Tableland the practice of mixing the sexes at Thirlmere has been abandoned. The medical supervision will be in the hands of Dr. Eric Sinclair.

Action for Libel.

Mr. S. B. Helwig who is registered as M.D. Univ. of Heidelberg, 1899, recently brought an action against the proprietors of the Ballarat *Echo*, claiming £1000 damages for alleged libellous paragraphs stating that the plaintiff had victimised a resident of Ballarat in respect to an alleged cure for gall-stones. The plaintiff has practised for some time at Pakenham, a small village near Melbourne. He is alleged to have claimed by advertisement in the public press to be able to remove gall-stones by means of a special medical treatment. The paragraphs complained of had reference to a patient who had undergone the treatment without benefit. A

strong bar appeared on both sides. The jury found generally for the defendants and Mr. Justice Cussen said that he would appoint a future day to hear arguments as to how the verdict should be entered and as to costs. On a subsequent application judgment was entered for the defendants with costs upon one count, and as to the other count a new trial was ordered.

Diphtheria Patient Fined.

An unusual prosecution in this part of the world was made in the case of a woman who was charged under the Health Act that she was, while knowing she was suffering from a dangerous infectious disease—to wit, diphtheria—intentionally in a public place. The patient had been an inmate of the infectious diseases hospital and though convalescent left the institution against the order of the medical superintendent. In going home to her family she called at a friend's house and sat on the verandah. The magistrates imposed a fine of 10*s.* with £3 3*s.* costs.

State Relief.

The annual report of the State Children's Relief Board of New South Wales shows that 7049 children are under supervision, 4024 being boarded out apart from, and 3025 with, their mothers. The expenditure for the entire service of the department was £69,772. Contributions of parents amounted to £2078, leaving the actual cost to the State of each child at £15 6*s.* Allowances to widows and deserted wives towards the support of their children at home amounted to £19,269, so that the State appears to be assuming a large undertaking in addition to education. 1201 children are apprenticed under the control of the Board. Their wages are paid into the Savings Bank and disbursed according to a scheme that has worked well, two-thirds being retained till the child is 21 years old. Street-trading licences were issued to 735 children.

British Medical Association.

The annual meeting of the Victorian branch of the British Medical Association was held on Dec. 3rd. The retiring president (Professor H. B. Allen) delivered an address in which he outlined the scheme by which the branch had become amalgamated with the Medical Society of Victoria. The following office-bearers were elected for 1908: President, Mr. G. A. Syme; Vice-Presidents, Dr. R. R. Stawell and Mr. G. Cuscaden; Secretaries, Dr. L. J. Balfour and Dr. Henry Laurie; Treasurer, Dr. C. H. Mollison; Librarians, Mr. A. W. F. Noyes and Dr. H. D. Stephens; Council, Dr. W. R. Boyd, Dr. Felix H. Meyer, Dr. W. Moore, Mr. F. W. Morton, Dr. A. Lewers, Mr. W. Beattie-Smith, Dr. A. J. Wood, and Dr. G. T. Howard.

Dec. 28th, 1907.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Bradycardia in Appendicitis in Children.

Dr. János Bókay, professor of pædiatrics at the University of Budapest, has drawn attention in a clinical lecture to the importance of bradycardia in children suffering from appendicitis. This symptom has not been dealt with as yet; in the literature of the subject there is only one memoir referring to bradycardia in appendicitis, and in it only adults are considered. Professor Bókay draws the following conclusions from an experience of ten cases treated successfully. 1. During the absorption of the periappendicular exudation bradycardia sets in almost regularly and persists for many days; it may even last for more than a fortnight. 2. Bradycardia may also be observed after an appendicular abscess has been evacuated by an operation. 3. In children between the ages of seven and 16 years the pulse-rate ranged from 52 to 80. 4. There is no parallelism whatever between the pulse-rate and the temperature. 5. Bradycardia cannot be regarded as an unfavourable sign from the point of view of prognosis; on the contrary, in cases of periappendicular exudation it is a sign of the commencement of the process of absorption. In all the ten cases observed by Professor Bókay the bradycardia must have been of extracardial, i.e., nervous, origin, because organic heart disease could be excluded. He was therefore justified in assuming that the essential cause was irritation of the vagus, probably due to the absorption of toxins from the periappendicular exudation.

Why do not the Living Stomach and Intestine Digest Themselves.

Dr. Nandor Klug, professor of physiology, has been investigating in his laboratory the still unsolved question, why the living stomach does not digest itself. His investigations were based on Weinland's experimental results, according to which the walls of the stomach and intestines defend themselves against the proteolytic enzymes by means of anti-enzymes or anti-ferments. Professor Klug has found that the inner half of the gastric mucous membrane contained a substance which powerfully resisted the digestive action of the trypsin and the gastric juice. The stomach (and the small intestines as well) were therefore protected against self-digestion by mucin which they themselves secreted. Dr. Klug's experiments did not prove the presence of so-called anti-ferments, as supposed by Weinland. The mucin could not be digested either by the mixture of pepsin and hydrochloric acid or by the trypsin solution. Mucin was not liable to diffusion; it retained the trypsin and pepsin, and this property sufficed for the protection of the stomach and intestines from self-digestion. The ascaris lumbricoides was not digested by the intestinal fluids on account of the resistant properties of its external covering.

Cancer of the Lip.

At a recent meeting of the Budapest Medical Society Dr. Heiner Pál read a paper giving statistical details of the cases of cancer of the lip which have been under observation in Professor Dollinger's clinic during the last seven years. He said that labial cancer was ten times as frequent in men as in women and that cancer of the lower lip was twelve times as frequent as that of the upper lip. All parts of the lower lip were alike liable to be attacked; in the upper lip, on the other hand, the favourite site of the disease was the middle part. Cancer of the lip was most frequent in agricultural labourers and men who smoked pipes. It mostly occurred between the ages of 55 and 60 years. Preceding inflammations, psoriasis, leukoplakia, and scars had an important influence in the development of the disease. With regard to the period of admission to hospital, 84 per cent. of the patients presented themselves within the first year from the onset of the cancer and in 76 per cent. of the cases the parts were already ulcerated. In 67 per cent. of the cases there was a regional glandular infiltration present. Of the cases operated on, 69·6 per cent. have now remained free from recurrence for over five years. In two-thirds of the cases in which there has been recurrence death supervened in the course of the first year.

The Position of the Assistant Medical Officers of the Budapest Hospitals.

On Jan. 28th the assistant medical officers of the Budapest municipal hospitals—namely, St. Rochus, St. Ladislaus, St. Stephen, the Workhouse Hospital, St. John and Margareth Hospitals—gave notice to the director, Professor Kolomann Müller, that they would resign their posts on Feb. 4th. The motive for taking this step is the lowness of the salaries paid to the assistant medical officers. In 1904 they asked the municipal board to raise their remuneration from 1200 kronen (£50) to 2000 kronen, considering the great amount of work which they have to do and the expensiveness of living in Budapest. They pointed out that an assistant medical officer has to attend 200 patients daily and that the duties as well as the present salaries were fixed many years ago at a time when x ray work, advanced bacteriology, and the manifold forms of physical treatment now in use did not exist. It could therefore be easily understood that they have to work hard from early morning till late in the evening. They hoped that the municipal board would comply with their request, but on Jan. 27th the board refused the application. The assistant medical officers accordingly gave notice of their intention to resign their posts. The medical profession in general sympathises with them and is ready to offer help and support if the board maintains its present attitude.

Jan. 28th.

ST. MARY'S HOSPITAL.—A new special department for nervous diseases has been instituted in the out-patient practice of this hospital; it is a development of the electro-therapeutic department and will receive new cases as such, instead of only dealing with cases referred to it from other departments. The x ray department remains separate as before. Dr. Wilfred Harris has been appointed physician-in-charge of the department for nervous diseases in addition to his duties as senior physician to out-patients.

Obituary.

SIR THOMAS McCALL ANDERSON, M.D. GLASG., F.F P.S. GLASG.,

REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF GLASGOW.

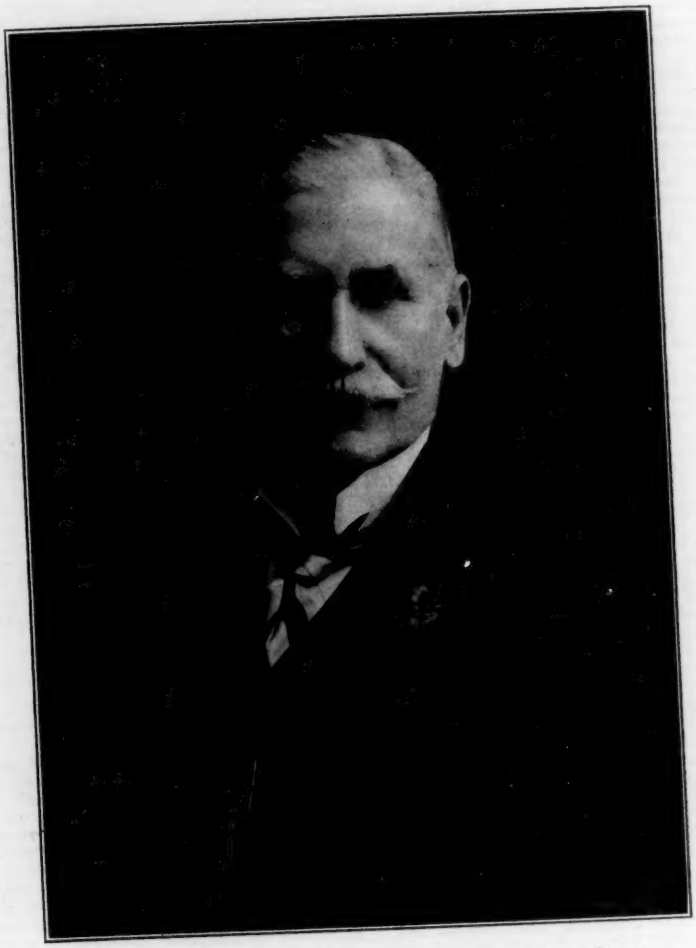
THE tragically sudden death of Sir Thomas McCall Anderson on the evening of Jan. 25th has removed a prominent personality from the ranks of the profession in Glasgow and the West of Scotland and a popular and highly successful teacher from the Glasgow Medical School in which he laboured with conspicuous ability for a period of nearly 50 years. On that evening he was present at the anniversary dinner of the Glasgow Ayrshire Society as the guest of his old friend the chairman, Surgeon-Colonel Robert Pollok, and appeared to be in his ordinary health and spirits. In felicitous terms he proposed the last toast on the list, that of the directors and other office-bearers of the society. Immediately afterwards he left the dining-room in company with his friend and colleague Sir Hector C. Cameron, apparently quite well, but on his way down the staircase he suddenly fainted and, surrounded by a number of medical friends who like himself had been guests of the chairman, he expired in a few minutes from heart failure. He had promised Dr. Pollok to be present and to propose a toast. He had felt somewhat tired during the day but in spite of the remonstrances of his family he felt that he could not disappoint his old friend and pupil who had been called to the honourable office of chairman of the society. He attended the dinner and kept his promise, with the tragical result which has just been stated. During the past year or more, probably as the result of a sudden but transient illness of an apoplectic nature, he had not enjoyed his usual vigorous good health, and last summer, on the advice of his medical friends, he took a prolonged holiday from teaching and professional work. He had benefited by the rest and change so much that he was able to resume his professorial duties at the beginning of the present winter session. At the meeting of the General Medical Council in November last he appeared to be in good health and took an active part in all the business of the session. He also attended the meeting of the Scottish branch council in Edinburgh last month.

Thomas McCall Anderson was born in Glasgow in 1836 and came of a family long and honourably connected with the city. His father, Dr. Alexander Dunlop Anderson (1794–1871), was the son of a merchant in Greenock and nephew of Dr. John Anderson, professor of natural philosophy in the university and founder in 1796 of the "Andersonian" university which is still famous as the leading extramural medical school in Glasgow. Through the Dunlops his family was intimately connected with the university, one of the Dunlops having been principal at the end of the seventeenth and another professor of Greek during the greater part of the first half of the eighteenth century. It will thus be seen that he came from a family which was able to give him a good start on the journey of life, and he himself soon proved that he was fitted and willing to make the very best use of his hereditary endowments. After a brilliant career as a medical student in the university of his native city he graduated "with honours" in 1858. For the succeeding two years he acted as one of the resident assistants in the Glasgow Royal Infirmary, in which institution his father had served during a number of years on the visiting staff. He then spent some time at Vienna and other great continental schools, and soon afterwards he settled in practice in Glasgow. In these early years he securely laid the foundations of his future success as a teacher and physician by his enthusiasm for his medical work and his tireless industry in the prosecution of it. He possessed that capacity for taking pains which is said to be akin to genius. Two old notebooks given by him to a friend many years ago bear abundant evidence of this. One of them contains full records of the symptoms and treatment of the rarer cases coming under his observation, and the other full notes of the books he studied. In the list of books thus annotated are such classics as Louis on Phthisis, Williams on Diseases of the Chest, Brinton on Ulcer of the Stomach, Virchow on the Cellular Pathology, Ricord on Syphilis, Gairdner and Garrod on Gout, Brown-Séquard on Epilepsy, Adams on Rheumatic Gout, and many others. In such a thorough manner did he prepare himself for his life's work.

Soon after settling in Glasgow he was appointed professor of the practice of medicine in the "Andersonian" College and somewhat later one of the visiting physicians to the Glasgow Royal Infirmary. From this time his success as a teacher and a physician was rapid and was maintained till the end of his long career. When the clinical school of the University was removed from the Royal to the Western Infirmary in 1874 he was appointed professor of clinical medicine in the University and one of the visiting physicians to the newly founded infirmary, where by far the greater part of his clinical work was done, and in the wards of which he was on full duty at the time of his death. In addition to his great industry another element in his success was the methodical manner in which he arranged his work. The proof of this is found in the fact that his great work on diseases of the skin was written at a time when his consulting practice was at its highest level and his popularity as a clinical teacher at its greatest. Regularly every afternoon in the midst of his numerous academic, professional, and social engagements an hour or two was devoted to the writing of the book. His custom then was to make pencil notes late at night and to dictate them the next afternoon as they were to appear in print to his amanuensis. His untiring industry and his method of working were an example and an inspiration to his students and assistants.

From what has been said it will readily be understood that the reason of McCall Anderson's great popularity and success as a teacher, especially of clinical medicine, is not far to seek. In the old Royal Infirmary days, before the University migrated to the west, he had already displayed his powers as a teacher, and his clinical classes were always most numerously attended. His definite aim in these days was to raise the standard of clinical teaching. He saw that in order to be effective clinical study and practice should be something more than a mere "walking the hospital." He set himself definitely so to organise his large classes that so far as possible individual students should be brought into personal contact with the cases. For this purpose in the most thorough manner he adopted the tutorial system, dividing the students into groups so that the elements of physical diagnosis and urinary analysis might be efficiently taught. The same methods were adopted when he went in 1874 to the Western Infirmary as Professor of Clinical Medicine in the University. Similar popularity attended him in his new sphere, and to the end in the Western Infirmary his clinical classes were always the largest. His great success in clinical teaching was due mainly to three characteristics: (1) to his clear and systematic method of exposition and demonstration; (2) to his intense concentration upon the subject in hand, which prevented his being led into the discussion of irrelevant matters; and (3) to his admirable powers of organisation in arranging for the teaching of large classes of students. These are qualities which, if combined with enthusiasm and industry, are bound to command success in clinical teaching. Everyone recognised that under the conditions of medical education which have up to now prevailed in this country no better method of instruction than that carried out by McCall Anderson could be devised for laying a sure foundation in the study and practice of clinical medicine.

As a physician Sir Thomas McCall Anderson may be described as at once practical and sagacious. His powers were greater in the direction of therapeutics than in that of pathology or the minutiæ of diagnosis. He did not belong to the expectant school and was never content to rely merely on the *vis medicatrix naturæ*. He believed thoroughly in the practical applications of the medical art and nothing delighted him more than to demonstrate to his students the beneficial effects of the drugs and therapeutic measures which he had prescribed. Indeed, this was the part of his teaching from which many of his students felt that they had profited most. And outside the wards of the infirmary his clear and common-sense instructions as to the treatment to be carried out in a given case were greatly valued by the numerous medical men who were in the habit of seeking his advice as a consultant. For many years he enjoyed a very extensive consulting practice. He did not, however, confine himself to general medicine; he also had a deservedly high reputation as a specialist in diseases of the skin. It was, indeed, as a dermatologist perhaps that he was best known in England and on the continent of Europe. Very early in his professional career he was instrumental in



SIR THOMAS MCCALL ANDERSON, M.D. GLASG., F.F.P.S. GLASG.,
REGIUS PROFESSOR OF MEDICINE IN THE UNIVERSITY OF GLASGOW.

founding the Glasgow Hospital and Dispensary for Diseases of the Skin. In this institution he worked hard all his life and obtained a wide experience of all varieties of cutaneous maladies. His annual clinique on diseases of the skin has done much to promote a thorough knowledge of dermatology amongst the practitioners graduating from the Glasgow school. During his busy life Sir Thomas McCall Anderson found time also to contribute largely to the literature of medicine. His largest work, as has already been mentioned, was the "Treatise on Diseases of the Skin." Among the long list the following may also be mentioned: "On the Curability of Attacks of Tubercular Peritonitis and Acute Phthisis (Galloping Consumption)"; on "Syphilitic Affections of the Nervous System: their Diagnosis and Treatment"; and "Lectures on Clinical Medicine delivered in the Royal and Western Infirmaries of Glasgow." These, and we might mention many more, are sufficient to show the wide scope of his literary efforts and of his clinical studies. As a writer his style was clear and terse; and his views both on diagnosis and treatment were always based upon cases actually observed and treated. As a man of affairs he had a high reputation. He was a good business man; and his sound common-sense was recognised by his being placed on a number of public and charitable boards. In politics he was a Conservative and he took an interest in the local affairs of the party. For many years he was an elder in the Church of Scotland.

In 1900 Sir Thomas McCall Anderson was transferred by Lord Balfour of Burleigh, then Secretary for Scotland, to the chair of Practice of Medicine vacated by Sir William T. Gairdner. In 1903 he succeeded the same gentleman as representative of the University of Glasgow on the General Medical Council. He was knighted in 1905 and two years later, on the death of Sir William Gairdner, he succeeded him as one of the honorary physicians to the King in Scotland. He has now ended his busy life full of honours, having discharged his daily duties to the very last. On the Monday after his death the headings of his intended lecture for that day on cerebral hæmorrhage were found written in his own hand on the blackboard of his class-room. His punctuality and diligence in his medical work have long been admired by his medical brethren; and those who were his students will not soon forget the clear and succinct clinical teaching which in the case of many of them laid the foundation of their own success in the profession of medicine.

He is survived by Lady McCall Anderson, one son, and five daughters, with whom much sympathy is felt.

JAMES BELL PETTIGREW, M.D. EDIN., F.R.C.P. EDIN., F.R.S. LOND., LL.D. GLASG.,

PROFESSOR OF MEDICINE AND ANATOMY IN THE UNIVERSITY OF ST. ANDREWS.

Professor James Bell Pettigrew died at his residence, The Swallowgate, St. Andrews, on Jan. 30th, after a long illness. He was born in 1834 at Roxhill in Lanarkshire, and was related on his mother's side to Henry Bell, the founder of steam navigation in Europe. He studied medicine in the University of Edinburgh, where he graduated as M.D. in 1861, receiving a gold medal for his thesis; he was also a gold medallist in the subjects of anatomy and medical jurisprudence. From 1862 to 1868 he held the appointment of assistant curator at the Hunterian Museum of the Royal College of Surgeons of England. Returning to Edinburgh he worked for the Royal College of Surgeons in that city, being appointed curator of the museum in 1869 and lecturer on physiology in 1873. In 1875 he became Chandos professor of medicine and anatomy in the University of St. Andrews, a position which he held till the time of his death, although increasing infirmities compelled him not long ago to relinquish the active duties connected with his chair. Professor Pettigrew made many valuable contributions to medical literature, chiefly in the form of articles published in various journals and papers read before societies. At an early part of his career he worked at the muscular structure of the heart, stomach, and bladder; and some of his results were published in the *Philosophical Transactions* in 1864 and 1867. The latter of these two memoirs gained for him in 1874 the Godard prize of the French Academy of Sciences and he also received the distinction of laureate of the Institute of France. He subsequently gave much attention to problems connected with the flight of birds. In 1873 he published a treatise on "Animal Locomotion," and the article entitled "Flight: Natural and Artificial," in the ninth edition of the "Encyclopædia Britannica" (1879) was written by him. Various forms of flying machines were devised by him for the purpose of illustrating his views. On Nov. 23rd and 30th, 1901, we published two valuable papers by him on the making of anatomical preparations, and again in January, 1904, an article on Spiral Fomrations in Relation to Walking, Swimming, and Flying. Marrying in 1890, Professor Pettigrew has left a widow who was a daughter of the late Sir W. Gray of Greatham, Durham.

CHARLES JAMES WRIGHT, M.SC. LEEDS, M.R.C.S. ENG.,

EMERITUS PROFESSOR OF OBSTETRICS, UNIVERSITY OF LEEDS; HONORARY CONSULTING SURGEON TO THE HOSPITAL FOR WOMEN AND CHILDREN, LEEDS.

THE loss which Leeds has sustained by the death of Mr. C. J. Wright will be felt not only by those with whom he has for so many years been associated but by a large number of medical men in practice in various parts of the county of York and elsewhere. Though Mr. Wright had been manifestly failing in health for some years he went on bravely with his work until about a week before he passed away on Jan. 17th, and the announcement of his death came as a surprise even to many of his friends in Leeds. Mr. Wright, who was in his sixty-sixth year, was a native of Wakefield. He was educated at St. Peter's School, York, and was a student of the old Leeds School of Medicine as well as of Guy's Hospital. It may be said that the whole of his professional life was identified with the Leeds School of Medicine, for as a student he worked in the old house in East Parade, and in this house he also taught. He was associated with the school when it was housed in the new premises in Park-street, opened by Sir James Paget, and he continued his work until last year in the new buildings opened by the present Prince of Wales in the early "nineties." To few men indeed is it given to be a member of the active teaching staff of any institution for the long period of 41 years, and not only was this the case with Mr. Wright, but everyone who was acquainted with his work will cordially agree that during the whole of that time his energies were unsparingly devoted to the welfare and reputation of the school. Mr. Wright's earlier work was done in the departments of anatomy and physiology but from the year 1884 he was responsible for the teaching of obstetrics, first as lecturer in succession to the late Mr. William Nicholson Price, and subsequently to 1888 as professor. The University honoured him by conferring upon him the degree of Master of Science and on his resignation of the professorship last year it will be remembered that he was promoted to the honorary position of emeritus professor.

For many years Mr. Wright was a member of the honorary staff of the Hospital for Women and Children. On retiring from the active staff last year he was elected honorary consulting surgeon to the institution. In the reconstruction of this charity and in the erection of the new buildings, which were opened a few years ago, he took a very active part. For many years he was connected with the important work of the Leeds District Nursing Association and the committee will for long look back with gratitude to his genial and unsparing solicitude for the welfare of the nurses, at whose disposal he always held himself in times of illness. Though always in general practice Mr. Wright devoted himself more especially to obstetrics and gynæcology and he was frequently called in consultation by his former students in cases of difficulty. A distinguishing characteristic of Mr. Wright was his extraordinary grasp of details; he was apparently able at any time to lay his hand on some memorandum of an event which everyone else was at a loss to give a clear account of. One of his colleagues described him as "a born secretary," and another in joke said "his house must be full of pigeon holes," so unfailing was his accuracy in this respect. With this he combined a geniality of manner and a true kindness of heart which those who came much in contact with him will never forget. He probably valued nothing so much as the esteem and gratitude of his students, and this he had in a measure which was alike an honour to them and to him on whom it was bestowed. The sympathy of all who knew him will be freely extended to Mrs. Wright and his family, and his colleagues will always keep his memory fresh in their minds as of one who did his duty manfully.

Medical News.

UNIVERSITY OF OXFORD.—In a Congregation held on Jan. 23rd the following degrees in medicine and surgery were conferred:—

Bachelors in Medicine and Surgery.—C. G. Douglas, Fellow of St. John's College; G. M. Johnson, Magdalene College; N. Flower, Exeter College; S. Hartill, New College; and B. G. Klein, Corpus Christi College.

—The remaining degree days in the present term are:—Saturday, Feb. 15th, at 2.30 P.M., and Thursday, March 12th, at 10 A.M.

UNIVERSITY OF CAMBRIDGE.—The council of the Senate recommends that the centenary of the birth of Charles Darwin shall be celebrated by the University in the week beginning June 20th, 1909.—The following degrees were conferred on Jan. 30th:—

M.D.—C. J. Coleman, Trinity.
B.C.—C. E. M. Jones, King's; O. Heath, Trinity; A. F. Jackson, Peterhouse; C. H. Treadgold, Clare; and A. W. C. Drake and S. G. Luker, Pembroke.

UNIVERSITY OF LIVERPOOL.—At a meeting of the Senate held on Jan. 29th diplomas in Public Health were awarded to—

E. S. Jones, M.R.C.S., L.R.C.P.; R. O. Mather, M.B., L.R.C.P., L.R.C.S.; and J. Orr, L.R.C.P., L.R.C.S., L.F.P.S.

BRITISH MEDICAL BENEVOLENT FUND.—The annual general meeting of subscribers to the British Medical Benevolent Fund will be held at 15, Wimpole-street, London, W., on Tuesday, Feb. 18th, for the purpose of receiving the treasurer's financial statement and the report of the committee and for the election of a president and other officers and of a committee. The chair will be taken at 5.30 o'clock.

VACCINATION FEES.—At a meeting of the Falmouth board of guardians held on Jan. 29th a letter was read from the Local Government Board stating that the revised scale of fees submitted by the guardians for payment to the public vaccinators was too low. After some discussion it was decided to inform the Local Government Board that the guardians had arranged the fees with the public vaccinators.

MEDICAL INSPECTION OF SCHOOL CHILDREN.—The Thornbury (Gloucestershire) board of guardians at its meeting on Jan. 25th passed a resolution advocating the desirability of the medical inspection of school children being placed in the hands of local medical men instead of appointing a medical officer solely for that purpose.—At a meeting of the Somerset county council held on Jan. 31st it was stated that 68 candidates had applied for the post of chief medical inspector of schools, the salary offered being £500 per annum, with necessary out-of-pocket expenses. Eventually Dr. T. H. Craig Stevenson of Walthamstow was elected.

EXAMINATIONS IN HYGIENE.—A series of examinations in hygiene has been promoted and organised by the Incorporated Institute of Hygiene of London. These examinations will be held at the leading centres throughout England, Scotland, and Ireland, and will include not only the necessary examination showing general proficiency in hygiene but the following additional honours subjects—viz., the hygiene of the home; the hygiene of motherhood; the feeding and rearing of children; food and cooking; home nursing and first aid; school hygiene; and physical training. The future heads of households are those to whom this syllabus more particularly appeals, and there is no doubt that the young women of this country have still much to learn in connexion with personal and domestic hygiene. Nursing and the needs of the invalid and the feeding and rearing of children are subjects which are worthy of being placed in the forefront of a girl's education, as they are likely to be of far more practical use in her daily life than many branches of study which now receive an attention out of proportion to their value. The prevalent ignorance in regard to child-life is one of the chief causes of infant mortality. In personal and domestic hygiene we lag sadly behind some other countries, especially France. It is most important that every school teacher should have a general knowledge of the principles of hygiene, quite apart from the special knowledge required in teaching it. An examining board, composed of some of the leading physicians and men of science throughout the country, has been formed to further this branch of the educational work of the Institute of Hygiene; and every assistance and encouragement will be given to candidates who may carry on their studies at school, college, or at home, while they will receive the certificate of the institute for proficiency in elementary knowledge and the diploma of the institute for proficiency in advanced knowledge should they pass the examination successfully. Further particulars can be obtained from the Secretary, Incorporated Institute of Hygiene, 34, Devonshire-street, Harley-street, London, W.

THE ROYAL SANITARY INSTITUTE.—A provincial sessional meeting of the institute will be held at the Council Chamber, Exchange Buildings, Nottingham, on Saturday, Feb. 15th, when a discussion will take place on "Present-day Road Requirements in Town and Country." The discussion will be opened by Mr. E. Purnell Hooley, M.Inst.C.E., county surveyor, Notts, to be followed by, amongst others, Mr. A. Brown, M.Inst.C.E., city engineer, Nottingham, and Dr. F. R. Mutch, chairman of the health committee, and a general discussion is invited. The chair will be taken at 11 A.M. by Mr. H. D. Searles-Wood, F.R.I.B.A., chairman of the council of the institute. Tickets for admission of visitors may be had on application to Dr. P. Boobbyer, medical officer of health, Guildhall, Nottingham, who is acting as the local honorary secretary of the meeting; and of Mr. E. White Wallis, secretary, Parkes Museum, Margaret-street, London, W.

LITERARY INTELLIGENCE.—Messrs. J. and A. Churchill are just about to publish the second and concluding volume of "The Labyrinth of Animals," by Dr. Albert A. Gray, aural surgeon to the Victoria Infirmary, Glasgow; the work will be illustrated by stereoscopic plates. Another new book to be published by the same firm is entitled "Abdominal Tuberculosis," by Mr. A. E. Maylard; the text will be illustrated. New editions nearly ready are the second of "Lectures on Medical Jurisprudence and Toxicology," by Dr. F. J. Smith of the London Hospital; additional lectures on "The Examination of the Person Alive and Dead," "Anæsthetics," and "Death Certification" have been included; also the sixth edition of "A Simple Method of Water Analysis," by Dr. J. C. Thresh of the London Hospital.—A branch of the London Independent Labour Party, viz., the Committee for Promoting the Physical Welfare of Children, has issued a pamphlet by Mr. M. D. Eder on "Diseases in the Schoolroom," in which the writer points out how urgent the need is for attention to the many diseases now prevalent in the State schools. The pamphlet is published at the nominal price of 1*d.* and aims at helping the efficacious carrying out of the Act which came into force on Jan. 1st for the medical inspection of school children.

THE ELEVENTH INTERNATIONAL CONGRESS OF OPHTHALMOLOGY.—This congress will meet at Naples at the beginning of April, 1909, and its organising committee has already issued a circular letter of invitation. Professor Marc Dufour will be honorary president and Dr. Landolt will be vice-president. The corresponding members of the congress for Great Britain are Mr. Walter H. H. Jessop, 73, Harley-street, London, W.; Professor George Mackay, 20, Drumsheugh-gardens, Edinburgh; and Sir Henry R. Swanzy, 23, Merrion-square, Dublin. Ophthalmologists subscribing to the congress and wishing to communicate papers must forward their titles during the September of this year. All papers must be compiled in one of the official languages of the congress—viz., Italian, French, English, German, and Spanish. Documents will be sent before the meeting to those who shall have signified their intention to be present and will contain the information relating to the work of the commission nominated at the preceding congress to consider the themes of discussion: First, to fix, with regard to an indemnity, the value of a lost or damaged eye; and, secondly, unification of the measure of the visual power and unification of the notation of the meridians of astigmatism. The subscription for the congress is 25 francs for members and 10 francs for every member of their family. Notification of presence, subscriptions, and communications relating to the congress should be addressed directly to Professor Arnaldo Angelucci, R. Clinica Oculistica in S. Andrea delle Dame, Naples, or to one of the corresponding members of the respective countries. The member's ticket which those taking part at the congress will

receive is strictly personal and available for no one else. It will also give free entrance to the museums and to public buildings as well and entitle its holder to reductions from the railways and to other privileges which will be indicated later.

DONATIONS AND BEQUESTS.—Under the will of Colonel Edward Sanderson Tozer, V.D., of Sheffield, the Sheffield Royal Infirmary, the Sheffield Royal Hospital, and the Jessop Hospital for Women will each benefit by a legacy of £500.—By the will of Major Christopher Deake Brickmann of Bath £200 have been left to the Eastern Dispensary, Bath, and £500 to the Royal United Hospital, Bath, for the maintenance of a cot to be called after the testator.

THE After-Care Association for poor persons discharged as recovered from asylums for the insane held its annual meeting on Jan. 29th, at 48, Wimpole-street, London. Mr. Anthony Hope Hawkins was in the chair. The report of the council read by the secretary, Mr. H. T. Roxby, stated that the proportion of cases successfully treated had been very encouraging. The results showed that the prevention of relapse into insanity was possible when an efficient re-start in life was given. Many persons discharged from asylums for the insane were quite capable of work if suitable occupation were found for them, but were unable to stand the anxiety and strain of procuring it for themselves. The council wished to call particular attention to this point as it was often overlooked when patients were discharged and their slender means were spent before they applied for help from the association at the Church House, Dean's-yard, Westminster. Amongst those present were Dr. G. H. Savage who spoke on the difficulties of convalescence from mental disorders, Dr. G. F. Blandford, Dr. G. Amsden, and Dr. H. Bond.

THE WEST AFRICAN MEDICAL STAFF.—The winter dinner of the West African Medical Staff took place on Jan. 29th, at the New Gaiety Restaurant, Strand, London. There was a large attendance of members, including Dr. W. T. Prout, C.M.G., of the Liverpool School of Tropical Medicine, late principal medical officer, Sierra Leone, who presided; Mr. G. J. Rutherford, senior medical officer, Gold Coast; Dr. C. R. Chichester, senior medical officer, Northern Nigeria; Dr. M. Cameron Blair, senior medical officer, Southern Nigeria, and others. Among the guests were Sir Patrick Manson, K.C.M.G., Mr. J. Robinson of the Colonial Office, and Dr. C. W. Daniels of the London School of Tropical Medicine. Letters regretting inability to be present were received from Mr. R. Antrobus, C.B., Assistant Under Secretary of State for the Colonies, Sir Alfred Jones, K.C.M.G., Sir Rubert Boyce, and others. Dr. Prout, in proposing "Success and Prosperity to the West African Medical Staff," said that he was sure that in the midst of these luxurious surroundings those present would remember their brother officers who were bearing the white man's burden in the unhealthy wilds of West Africa. He then briefly reviewed the changes which had come about since he first went out to West Africa and drew attention to the vast developments which had taken place in tropical science of late years, many of which were due to the ability, the dogged determination, and the far-sightedness of that veteran of tropical medicine whom they were proud to have as an honoured guest that evening, Sir Patrick Manson. But up to the present there had been one thing lacking—the feeling of comradeship and *esprit de corps* which was so essential to the welfare of any body of men, scientific or otherwise, who are bound together by a common training, common knowledge, and common interests. This was possibly due mainly to the geographical conditions of West Africa and he believed that these dinners would do much to foster that feeling of union and cohesion which was so necessary. It was his conviction that whatever was conducive to the efficiency of the medical staff would undoubtedly be for the benefit of the general community who lived under the unhealthy conditions of West Africa, and he was sure that he was speaking for all of them when he said that they would welcome any improvement of this nature, not for merely selfish and personal considerations, but because of the great gain to health and sanitation which would result. The health of the guests, coupled with the name of Sir Patrick Manson, was briefly proposed by Mr. Rutherford. Sir Patrick Manson, in reply, expressed the great pleasure he had at being present and considered that such meetings would be of great benefit to the West African Medical Staff and would be conducive to a feeling of union which would strengthen their hands for good. He was aware that there was a feeling that they had not always received that support in sanitary matters to which they were entitled; this was not due to any want of sympathy on the part of the Colonial Office which was fully alive to the value of their services and was anxious to assist in forwarding sanitary reforms, but was perhaps to be attributed to local conditions. He realised that it was desirable that some form of organisation should be devised which would enable them to bring forward their views in a more direct manner but it was difficult to see how this could be done at once and it was necessary to proceed slowly and cautiously. He hoped that ere long it would be found possible to find some means of surmounting these difficulties. Efficiency in the West African Medical Staff was especially desirable at the present time. They were at the beginning of new developments, of a new pathological era for West Africa, which the political changes of recent years, increasing inter-communication, and, above all, the new railways, were sure to bring about. Diseases formerly limited in their area would become diffused and widespread and diseases hitherto unknown there—for example, plague and cholera—would be introduced.—Mr. G. T. Whyte, medical officer in Northern Nigeria, has resigned his appointment with effect from Oct. 4th, 1907. Mr. P. Phillips, medical officer in Southern Nigeria, has been invalided from the service with effect from Nov. 7th, 1907. Dr. W. Fletcher, D.S.O., medical officer in Southern Nigeria, has retired on pension from Nov. 15th, 1907. Mr. J. D. Small, senior medical officer in Southern Nigeria, has retired on pension from Dec. 12th, 1907. Dr. T. C. Caldwell, medical officer in Southern Nigeria, has been invalided from the service with effect from Dec. 24th, 1907. Dr. D. H. R. Waldron, senior medical officer of the Gold Coast, will retire on pension from Feb. 18th, 1908. Dr. C. R. Chichester, senior medical officer in Northern Nigeria, will retire on pension from March 28th, 1908. Dr. J. A. Pickels, medical officer in Southern Nigeria, has been promoted to senior medical officer, vice Mr. J. D. Small. The following gentlemen have been appointed to the staff:—Sierra Leone: Mr. J. C. Murphy, dated Nov. 16th, 1907. Northern Nigeria: Mr. F. E. Bissell, dated Nov. 16th, 1907. Southern Nigeria: Dr. G. Beatty, dated Dec. 28th, 1907; and Mr. W. R. Larbalestier, Mr. W. S. Snell, Dr. T. L. Craig, and Dr. J. Boyd, dated Jan. 11th, 1908.

DR. A. NEWSHOLME AND BRIGHTON.—At a special meeting of the Brighton town council on Jan. 30th it was unanimously decided that the following resolution should be engrossed on vellum, sealed with the common seal of the borough, and presented to Dr. Newsholme:—

That the council with great regret accept the resignation of Dr. Newsholme, medical officer of health for the borough, and tender him their very hearty congratulations upon his appointment as head of the medical department of the Local Government Board. They desire to assure Dr. Newsholme of their high appreciation of the unstinted service rendered by him to the inhabitants of the borough during the period of 20 years throughout which he has held his important office, by which a continuous and progressive decline in the death-rate has been brought about, the housing conditions of the poor have been greatly improved, and the standard of public health administration has been raised to a very high degree of efficiency. They further wish to congratulate Dr. Newsholme upon his early recognition of the importance from the public health standpoint of the treatment of consumption and upon the national service which he has rendered in the department of medical science.

At the same meeting Dr. Newsholme was allowed to terminate his engagement on Feb. 3rd, thus abrogating the usual quarter's notice, and Dr. Henry Collier Lecky, resident medical officer of health at the sanatorium, was appointed acting medical officer of health pending the appointment of a successor to Dr. Newsholme.

SECOND ANNUAL DINNER FOR PAST AND PRESENT STUDENTS OF THE ROYAL LONDON OPHTHALMIC HOSPITAL.—The second annual dinner for past and present students of the Royal London Ophthalmic Hospital was held at the Trocadéro Restaurant on Jan. 29th, under the presidency of Sir John Tweedy, consulting surgeon to the hospital and late President of the Royal College of Surgeons of England. About 60 past and present students and guests were present and the success which attended the initiation of this celebration last year, under the presidency of Mr. Jonathan Hutchinson, was repeated. Sir John Tweedy proposed the toast of "The Moorfields Hospital and Medical School" in felicitous terms, response being made by Mr. Sturgis, chairman of the hospital committee, and Mr. W. T. Holmes Spicer, dean of the school. The latter drew attention

to the increase in the number of courses of lectures and the flourishing conditions of the teaching department, students being attracted from all parts of the world. The health of the chairman was proposed by Mr. R. Marcus Gunn, senior surgeon to the hospital.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

The Opening of Parliament.

PARLIAMENT was opened with the usual State ceremonial by His Majesty the KING on Wednesday, Jan. 29th. Amongst the measures which were promised in the speech from the Throne were Bills to amend the Acts relating to the housing of the working classes and to regulate the laying out of land needed for the development of growing urban centres; to improve and extend university education in Ireland, and to consolidate and to amend the law relating to the protection of children and to the treatment of juvenile offenders.

The Pharmacy (Ireland) Acts.

An order approving of a regulation made under the Pharmacy (Ireland) Acts by the Pharmaceutical Society of Ireland has been ordered to lie upon the table of both Houses of Parliament.

New Bills.

Since the Session began the following Bills have been introduced into the House of Commons: The Sweated Industries Bill, by Mr. TOULMIN; the Housing of the Working Classes (Ireland) Bill, by Mr. HAGAN; the Education (Provision of Meals) (Scotland) Bill, by Mr. T. F. RICHARDS; the Coroners' Inquests (Railways Fatalities) Bill by Sir FRANCIS CHANNING; the Coroners' Inquests Bill, by Mr. HIGHAM; and the Infant Life Protection Bill by Mr. STAVELEY-HILL. Several of these measures have been before the House on previous occasions. Mr. HIGHAM's measure is designed to dispense with the compulsory viewing of bodies on the holding of coroners' inquests.

Legislation on Milk-Supply.

It is the intention of the Earl of NORTHBROOK to put a question to the Government in the House of Lords next week with respect to legislation with regard to milk-supply. Mr. BURNS, however, has intimated in the House of Commons that it is the intention of the Government to promote a Bill on the subject during the session.

Alcohol and Tuberculosis in Ireland.

On the motion of Mr. SLOAN, the House of Commons has ordered a return giving statistics showing the number of deaths in Ireland due to alcohol and tuberculosis for the 12 months ending on the 31st day of December, 1907.

HOUSE OF LORDS.

WEDNESDAY, JAN. 29TH.

The International Conference on Sleeping Sickness.

Answering a question put by the Earl of MAYO in the course of the debate on the Address, Lord FITZMAURICE, the Under Secretary for Foreign Affairs, said that the International Conference upon Sleeping Sickness and Tropical Disease, which met at London, arrived at certain conclusions, but as the delegates who came from various foreign States had no power to sign a treaty the Conference adjourned. It was hoped that the Conference would reassemble in March and that then a convention would be signed.

HOUSE OF COMMONS.

FRIDAY, JAN. 31ST.

Medical Appointments in India.

Dr. V. H. RUTHERFORD in the course of a speech advocating changes in the method of governing India, incidentally observed that the natives of that country could not get the high appointments in the medical profession there. All the best appointments in the hospitals and medical colleges were kept in the hands of Europeans.

MONDAY, FEB. 3RD.

Children in Public-houses.

Mr. WEDGWOOD asked the Secretary of State for the Home Department whether his attention had been drawn to the statement of the Chief Constable of Liverpool that the action of the Liverpool Licensing Bench in discountenancing the presence of children in public-houses was responsible for the fact that the children observed to be taken into public-houses in Liverpool amounted to only 1·25 per public-house per hour against 9·12 in London; and whether the same method of checking this evil could be recommended by the Home Office to other licensing benches.—Mr. H. SAMUEL (who replied) said: The Secretary of State does not find that the Chief Constable of Liverpool committed himself to so definite a statement as my honourable friend attributes to him, but there can be no doubt that the views of a licensing authority on the question of the admission of women and children into public-houses must have a strong influence on the licence-holders within their district. The Secretary of State has no power to advise licensing authorities in this matter, but he is sure that they must all be fully alive to a question which is so much in the public mind at the moment and which will be dealt with in coming legislation.

TUESDAY, FEB. 4TH.

The Sleeping Sickness.

Mr. REES asked the Under Secretary of State for the Colonies what measures had been taken to prevent the spread of sleeping sickness from Uganda towards Nyassaland.—Mr. CHURCHILL answered: The question of the spread of sleeping sickness towards Nyassaland is being investigated by a party of scientific experts sent out by the Liverpool School of Tropical Medicine with the assistance of a grant from Government funds. When their report has been received the Secretary of State will consider in consultation with the Governor of the Protectorate what measures, if any, are required. The whole matter is being closely watched.

Regulations on Imported Meat.

Mr. COURTHOPE asked the President of the Local Government Board what steps, if any, were being taken to remove the danger to the public health arising from imported meat and to carry out the recommendations contained in Dr. G. S. Buchanan's recent report on the subject.—Mr. BURNS replied: I have caused regulations to be prepared under the Public Health (Regulations as to Food) Act of last session dealing with the subjects referred to in Dr. Buchanan's report, and I am now in communication with the other departments concerned with regard to them.

Milk-supply and Legislation.

Mr. VICTOR CAVENDISH asked the Prime Minister whether, in view of the widespread anxiety existing in many parts of the country, he would cause a full inquiry to be made into the question of the supply of milk in relation to public health before any legislation was introduced.—Mr. BURNS (who replied to the question) said: The Government is desirous that there should be legislation with regard to milk-supply during the present session, and I could not promise further inquiry before introducing a Bill on the subject.

Irish Poor-law Medical Officers.

Mr. FETHERSTONHAUGH asked the Chief Secretary to the Lord Lieutenant of Ireland whether it was intended to introduce any legislation during the present session to give effect to the report of the Commission on the Irish Poor-law Administration, and in particular to deal with the grievances of the Irish Poor-law medical officers.—Mr. BIRRELL answered: It is the intention of the Government to introduce legislation to amend the Irish Poor-laws, but I cannot hold out any hope that an opportunity will arise during the current session.

WEDNESDAY, FEB. 5TH.

A Tuberculosis Prevention Bill for Ireland.

Mr. AUGUSTINE ROCHE asked the Chief Secretary to the Lord Lieutenant of Ireland whether, in view of the unanimous expression of public opinion all over Ireland during the past six months on the urgent necessity of taking steps to check the ravages of consumption in Ireland, any action would be taken this session to amend the law in conformity with the views expressed at the meetings.—Mr. BIRRELL replied: It is intended to introduce a Bill on the subject referred to in the question. The Bill, which has been drafted, is entitled "The Tuberculosis Prevention (Ireland) Bill, 1908." I hope it will pass into law during the present session.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BAILEY, T. RIDLEY, M.D. Edin., has been appointed School Medical Officer under the Bilston Education Committee.

BIRD, W. E. F., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer to the York Post Office.

CHARLES, HERBERT, M.R.C.S., L.R.C.P. Lond., has been appointed Anæsthetist to the Paddington Green Children's Hospital.

COLLIER, JAMES, M.D., F.R.C.P. Lond., has been appointed Physician in Charge of Wards to St. George's Hospital.

EDINGTON, G. H., M.D. Edin., F.F.P.S. Glasg., has been appointed Assistant to the Professor of Clinical Surgery, University of Glasgow.

JARDINE, ROBERT, M.D. Edin., M.R.C.S. Eng., F.F.P.S. Glasg., F.R.S.E., has been appointed External Examiner in Obstetrics to the Victoria University, Manchester.

MAYNARD, EDWIN, F.R.C.S. Eng., L.R.C.P., D.P.H. Lond., has been appointed Senior House Surgeon at the Bristol General Hospital.

MUDGE, ZACHARY BELLING, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Hayle (Cornwall) Urban District Council.

NAYLOR, RUPERT GEORGE ST. JOHN, F.R.C.S. Edin., has been appointed Public Vaccinator for the South-Eastern District of Victoria, Australia.

SLEEMAN, JAMES HENRY, M.B., Ch.B. Melb., has been appointed Public Vaccinator for the South-Western District of Victoria, Australia.

STEVENSON, THOMAS HENRY CRAIG, M.D., B.S. Lond., L.R.C.P. Lond., M.R.C.S., D.P.H. Cantab., has been appointed Chief Medical Inspector of Schools by the Somerset County Council.

THOMAS, FRANK LESLIE, M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed *pro tem.* District Medical Officer by the Barnstaple Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ABERTILLERY URBAN DISTRICT COUNCIL, EDUCATION COMMITTEE.—Doctor (female). Salary at rate of £150, rising to £200 per annum.

ACTON URBAN DISTRICT EDUCATION COMMITTEE.—Medical Inspector of Schools (female). Salary £200 per annum.

BANGOR, CARNARVONSHIRE AND ANGLESEY INFIRMARY.—House Surgeon. Salary £80 per annum, with board, lodging and washing.

BATH, ROYAL MINERAL WATER HOSPITAL.—Resident Medical Officer. Salary £100 per annum, with lodging, board, and laundry.

BATH, ROYAL UNITED HOSPITAL.—House Physician, also House Surgeon. Salaries £80 per annum, with board, lodging, and washing.

BIRKENHEAD BOROUGH HOSPITAL.—Senior Resident House Surgeon. Salary £100 and fees. Also Junior Resident House Surgeon. Salary £80 and fees.

BRIGHTON, COUNTY BOROUGH OF.—Medical Officer of Health. Salary £600 per annum.

BRIGHTON, SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board, residence, and laundry.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—House Surgeon. Salary £80 per annum, with board, rooms, and attendance.

BRISTOL ROYAL INFIRMARY.—Obstetric Officer. Salary £75 per annum. Also Junior House Surgeon for six months. Salary at rate of £50 per annum. Also Casualty Officer for six months. Salary at rate of £50 per annum. All with board, lodging, and washing.

CARMARTHEN, JOINT COUNTIES LUNATIC ASYLUM.—Second Assistant Medical Officer. Salary £160, increasing to £180 per annum, with board, lodging, washing, and attendance.

COLCHESTER, ESSEX AND COLCHESTER GENERAL HOSPITAL.—House Physician. Salary £80 per annum, with board, residence, and washing.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon. Salary £60 per annum, with residence, board, and washing.

GROCERS' COMPANY'S SCHOLARSHIPS.—Two Scholarships for original research in Sanitary Science, value £300 a year each, with allowance to meet the cost of apparatus and other expenses.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Junior House Surgeon. Salary £90 per annum, with residence, board, and washing.

KING EDWARD VII. SANATORIUM, Midhurst, Sussex.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, and attendance.

KING'S COLLEGE HOSPITAL.—Assistant Physician.

LEICESTER INFIRMARY.—Assistant House Physician, for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

LINDSEY COUNTY COUNCIL, Lincolnshire.—Medical Officer of Health and Medical Inspector of School Children. Salary £400 per annum, rising to £500, with expenses.

LONDON TEMPERANCE HOSPITAL.—Medical Registrar and Surgical Registrar. Salaries 40 guineas per annum. Also Pathologist and Bacteriologist. Salary 50 guineas per annum Also Anæsthetist. Salary 20 guineas per annum. Also Radiographer. Salary 10 guineas per annum.

MAIDSTONE, KENT COUNTY ASYLUM.—Fourth Assistant Medical Officer, unmarried. Salary £175 per annum, with quarters, attendance, &c.

MANCHESTER, ANCOATS HOSPITAL.—Resident House Surgeon. Salary £100, with board, residence, &c.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Resident Anæsthetist. Salary at rate of £40 per annum.

MULLINGAR DISTRICT LUNATIC ASYLUM.—Resident Junior Assistant Medical Officer. Salary £100 a year, all found.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Albany Memorial, Queen-square, Bloomsbury.—Assistant Pathologist. Salary 50 guineas per annum.

NORFOLK COUNTY COUNCIL.—Medical Officer of Health. Salary £500 per annum, rising to £650.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, E.—Resident Medical Officer. Salary £100 per annum, with board, residence, and washing.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer. Salary £150 per annum, with board, apartments, &c.

NOTTINGHAMSHIRE EDUCATION COMMITTEE.—School Medical Officer. Salary £300 per annum, and travelling expenses.

ROYAL NAVY, MEDICAL DEPARTMENT.—Examination for not less than 15 Commissions.

ST. PETER'S HOSPITAL FOR STONE, &c., Henrietta-street, Covent Garden, W.C.—Junior House Surgeon for six months. Salary at rate of £50 a year, with board, lodging, and washing.

SHEFFIELD ROYAL HOSPITAL.—Honorary Assistant Surgeon.

WARRINGTON INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £80 per annum, with residence and board.

Births, Marriages, and Deaths.

BIRTHS.

ANDERSON.—At Newholme, Pitlochry, on the 2nd inst., the wife of John Anderson, M.B., C.M. Edin., of a daughter.

CURTIS.—On Jan. 31st, at Alton House, Redhill, the wife of Frederick Curtis, F.R.C.S. Eng., &c., of a son.

MARRIAGE.

TAYLOR—ROBARTS.—On Jan. 30th, at St. John the Baptist Church, Fladbury, Stuart Hopcraft Stanley Taylor, B.A. Cantab., M.B., Ch.B. Edin., of Lacock, Wilts, to Hilda Mary Fanny, third surviving daughter of the late Arthur Frederick Robarts and Fanny Robarts, of Craycombe Pershore, Worcestershire.

DEATHS.

ALLINGHAM.—On Feb. 4th, at Kingsdene, Worthing, William Allingham, F.R.C.S., aged 78.

HARRIS.—On Feb. 3rd, at St. John's Wood-road, N.W., Benjamin Harris, M.R.C.S. Eng., L.S.A. Lond., aged 70 years.

PETTIGREW.—On Jan. 30th, at The Swallowgate, St. Andrews, James Bell Pettigrew, M.D., LL.D., F.R.S., F.R.C.P., Chandos Professor of Medicine and Anatomy in the University of St. Andrews.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

MEDICAL CERTIFICATES FOR GOVERNMENT SCHOOL CHILDREN.

A CORRESPONDENT asks us the oft-repeated question as to how a medical man giving a medical certificate to an educational authority for the absence of a child from school should be paid if the parents are too poor to pay. We have not seen the report of the case in question but we believe the position of affairs to be this. The London County Council has been charged by the Government with the duty of providing education for children and of seeing that they attend school. If the children do not attend school the London County Council has the right to summon the parents of such children and of demanding that they should give a reasonable excuse for their children not having been to school. A medical certificate properly signed by a registered medical man is, we believe, accepted as a reasonable excuse but the London County Council has no legal power to demand a medical certificate. It can only be demanded by the magistrate before whom the parents have to appear. The London County Council, we believe, has no power to pay medical men fees for certifying that the absence of a child is due to illness, and in fact the forms of certificate by the old London School Board had a notice distinctly printed upon them that the school board was not responsible for the fee. As the State requires the County Council to see that the children attend school it would seem to be only fair that the State should also reimburse medical men for certifying that children are unable to attend, but at present this is not the case.

HOSPITAL REFORM.

To the Editor of THE LANCET.

SIR,—The few suggestions I venture to make might be the means of drawing out the opinions of other members of the profession as to much needed hospital reform. 1. All hospitals to be under State supervision excepting cottage hospitals in small towns supported by local subscriptions. 2. The staff to be advertised for and selected for their worth, ability, and experience alone, not chosen by interest, canvassing, or by purchase, the usual proceedings. 3. No member of staff to hold *more than one* hospital appointment—a gross injustice to others of equal ability who are thus debarred from obtaining office. 4. The staff to be paid by the State, the fees from students going to help such payment. 5. No out-patients to be treated without letter from one of their local medical men stating they are unable to pay a doctor. 6. Each member of staff to hold office for ten years only and (in any case) to be compulsorily retired at the age of 60 years. These suggestions may lead to far better being proposed, and certainly it appears high time something should be done to alter the plan of assessment of each hospital's claim on the King's Fund so as to improve on the usual one—viz., bulk of patients attended to—naturally making the staff of each hospital anxious for crowded attendance (numbers of whom can afford to pay cost of coming from a distance but prefer to save the money—by paying no doctor's fee—for admission to football-match, music-hall, or perhaps a drunken debauch).

I am, Sir, yours faithfully,

Feb. 4th, 1908. A FORMER HOSPITAL PHYSICIAN.

A WARNING.

To the Editor of THE LANCET.

SIR,—I am informed that a young man, pretending to be a son of mine, is going about asking for pecuniary assistance. This person is an impostor and I shall be glad to hear that he is in custody.

I am, Sir, yours faithfully,

Upper Brook-street, W., Feb. 4th, 1908. F. H. CHAMPNEYS.

THE MUFFIN-MAN.

So far as the streets of London are concerned which are inhabited by the more well-to-do class of citizen, the itinerant muffin-man's bell is less often heard than formerly, and probably we may regard the sale of muffins and crumpets from a tray carried on the vendor's head as a "disappearing industry." Its survival is not likely to be fostered by a recent prosecution at the Marylebone police court of a muffin-man for ringing his bell, although he was not fined by Mr. Plowden but was allowed to go upon payment of the costs, a sum of 2s. only. The magistrate informed the defendant that he was prosecuted under an Act of Parliament passed 60 or 70 years ago which provides a penalty for the use of any noisy instrument for the purpose o selling anything. It may also be observed that the man in question appears to have been made the subject of legal proceedings by the police not on account of their solicitude for the nerves of the ordinary citizen but because he was rousing some police officers who were asleep after night duty. Protest has frequently been made in THE LANCET against the annoyance and even injury to health caused by street noises in a vast city like London where the majority of the inhabitants are workers, and it is a matter for observation that the police should have

allowed the muffin-bell to become a familiar, but unnecessary, form of nuisance, only to take steps against it upon its disturbing the slumbers of members of "the force." Nevertheless, if we are to witness the total disappearance of the muffin-man as a result of his being unable to advertise his wares in the accepted manner of doing so we may temper our sympathy with the individual by the reflection that he distributed articles of diet of doubtful origin in a manner which few could regard as desirable. His tray often covered with a piece of baize of a hue suggestive of long service in the murky atmosphere of the London streets has not been an ideal means of conveyance from a sanitary point of view, nor has his personal cleanliness been always above criticism.

A MEDICAL correspondent writes under the signature "Phenad": "Can anyone give me information as to any localised poisonous possibilities from a leech-bite, as distinct from an infection of the wound left by the bite?"

P. A. F.—We have read most of the stories before. These people thrive on contradiction, while nothing minimises the mischief of their action so much as never to mention them.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Feb. 6th, 1908.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Jan. 31	29·94	S.W.	0·02	69	48	35	39	41	Overcast
Feb. 1	29·87	N.W.	...	72	43	37	35	38	Fine
,, 2	30·22	W.	...	61	42	33	35	36	Fine
,, 3	30·17	W.	...	50	45	33	38	38	Overcast
,, 4	30·35	N.	0·05	66	43	36	35	37	Fine
,, 5	30·62	N.E.	...	53	45	35	35	37	Hazy
,, 6	30·65	W.	...	52	48	36	43	43	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (10th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St Mark's (2.30 P.M.).

TUESDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (12th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.).

THURSDAY (13th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9 30 A.M.), Samaritan (9 30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2 30 P.M.), St. Peter's (2 P.M.).

SATURDAY (15th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 20, Hanover-square, W.

TUESDAY.—(*Surgical Section*). 5.30 P.M., Mr. A. H. Tubby: Cora Valga.

THURSDAY.—(*Obstetrical and Gynæcological Section*). 7.45 P.M., The President, Dr. Macnaughton-Jones, Dr. E. Holland, and Dr. A. Routh: Specimens. Dr. R. Andrews and Dr. D. Maxwell; A Case of Difficult Labour, with Remarks on the Specimen of the Frozen Section of the Uterus. Dr. M. Randall: An Ovarion Dermoid with Secondary Cysts connected with the Omentum, with Pathological Report and Remarks by Mr. T. W. P. Lawrence.

FRIDAY.—(*Clinical Section*). 8.30 P.M., Dr. L. Guthrie and Mr. S. Mayou Mr. J. P. Roughton, Dr. H. French, Mr. R. J. Godlee, Dr. S. Taylor, Dr. A. Latham, and Dr. F. P. Weber: Exhibition of Cases. Dr. F. G. Batten and Dr. J. G. Forbes: Note on a Case of Gaertner Infection in an Infant. The patients will be in attendance at 8 P.M.

MEDICAL SOCIETY OF LONDON, 11, Chandos-street, Cavendish-square, W.

MONDAY.—8.30 P.M., Clinical Evening. Mr. G. Watson, Dr. E. Wynter, Dr. M. Dockrell, Dr. R. Hutchison, Dr. W. H. Willcox, Dr. de H. Hall, Dr. A. Morison, Dr. C. Wall, and others: Cases.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M., Clinical Evening. Mr. L. Paton, Mr. J. S. Bosford, Dr. F. W. Edridge-Green, Mr. J. H. Fisher, and others: Cases and Demonstrations. 9 P.M., Discussion of the Cases.

UNITED SERVICES MEDICAL SOCIETY, Royal Army Medical College, Millbank, S.W.

THURSDAY.—8.30 P.M., Dr. Pembrey: The Physiological Principles of Physical Training.

MEDICO-LEGAL SOCIETY, 22, Albemarle-street, W.

TUESDAY.—8.15 P.M., Narration of Cases and Exhibits of Medico-Legal Interest. Dr. L. Freyberger: An Analysis of 74 Cases of Sudden Death while under the Influence of an Anæsthetic.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne-street, Edgware road, W.

THURSDAY.—8.30 P.M., Mr. M. Smith: The Diagnosis and Treatment of Abdominal Injuries. Dr. C. Jones: The Treatment of Bronchial Asthma by Inoculation with a Bacterial Vaccine.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

MONDAY.—5 P.M., Mr. S. G. Shattock: Ovarian Teratomata.

WEDNESDAY.—5 P.M., Dr. J. W. H. Eyre: The Importance (Surgically) of the Pyogenetic Activities of Diplococcus Pneumoniæ.

FRIDAY.—5 P.M., Mr. L. S. Dudgeon: Infection of the Urinary Tract due to Bacillus Coli.

(Erasmus Wilson Lectures.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Dr. A. Whitfield: Clinique (Skin). 5.15 P.M., Lecture:—Dr. P. Stewart: Thalamic Hemiplegia.

TUESDAY.—4 P.M., Dr. A. Morison: Clinique (Medical). 5.15 P.M., Dr. M. Dobbie: Swedish Medical Gymnastics, their Application in the Treatment of Diseases of the Circulatory and Respiratory Systems.

WEDNESDAY.—4 P.M., Mr. H. L. Barnard: Clinique (Surgical). 5.15 P.M., Lecture:—Mr. R. H. J. Swan: Carcinoma of the Breast, its Early Recognition and Treatment.

THURSDAY.—4 P.M., Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. E. Squire: Pneumothorax.

FRIDAY.—4 P.M., Dr. StClair Thomson: Clinique (Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—12 noon: Lecture:—Dr. Low: Pathological. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Dr. Davis: Clinical.

TUESDAY.—10 A.M., Dr. Moullin: Gynæcological Operations. 12 noon: Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Moullin: Gynæcological Cases.

WEDNESDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Pardoe: Cystitis.

THURSDAY.—12 noon, Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M., Operations. 5 P.M., Lecture:—Mr. Baldwin: Practical Surgery.

FRIDAY.—10 A.M., Dr. M. Moullin: Gynæcological Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Operations. Dr. Abraham: Diseases of the Skin. 3 P.M., Lecture:—Dr. R. Jones: Types of Insanity (at the London County Asylum, Claybury, Woodford Bridge, Essex).

SATURDAY.—10 A.M., Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M., Medical and Surgical Clinics. X Rays. Dr. Scott: Diseases of the Eye. 2.30 P.M., Operations.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Cliniques:—10 A.M., Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie). 4.30 P.M., Medical In-patient (Dr. A. J. Whiting).

TUESDAY.—Clinique:—10.30 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Surgical Operations (Mr. Carson). Cliniques:—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles).
WEDNESDAY.—Cliniques:—2.30 P.M., Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).
THURSDAY.—2.30 P.M., Gynæcological Operations. (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting); Surgical Out-patient (Mr. Carson); X Ray (Dr. Pirie). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Throat Operations (Mr. Carson).
FRIDAY.—10 A.M., Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M., Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld); Eye (Mr. Brooks). 3 P.M., Medical In-patient (Dr. M. Leslie). 4.30 P.M., Demonstration:—Mr. R. P. Brooks: Selected Eye Cases.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2.15 P.M., Sir Dyce Duckworth: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. W. Turner: Surgery. 4 P.M., Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.
TUESDAY.—2.15 P.M., Dr. R. T. Hewlett: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. Carless: Surgery. 4 P.M., Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
WEDNESDAY.—2.15 P.M., Dr. F. Taylor: Medicine. 2.30 P.M., Operations. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: The Diagnosis of Errors of Refraction.
THURSDAY.—2.15 P.M., Dr. G. Rankin: Medicine. 2.30 P.M., Operations. 3.15 P.M., Sir W. Bennett: Surgery. 4 P.M., Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M., Surgical and Medical 12 noon, Ear and Throat. 2.15 P.M., Special Lecture:—Dr. Rankin: Neurasthenia, its Etiology and Treatment.
FRIDAY.—2.15 P.M., Dr. R. Bradford: Medicine. 2.30 P.M., Operations. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.
SATURDAY.—2.30 P.M., Operations. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.

MONDAY.—9 A.M., Operations (Mr. White). 2.30 P.M., In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coats).
TUESDAY.—2.30 P.M., In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).
WEDNESDAY.—2.30 P.M., In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).
THURSDAY.—2.30 P.M., In-patients—Medical (Dr. Morison).
FRIDAY.—3.30 P.M., Lecture:—Mr. G. B. M. White: Urethral Stricture.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Lecture:—Sir W. Gowers: Clinical.
FRIDAY.—3.30 P.M., Lecture:—Dr. Batten: Hereditary Ataxy.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, Leicester-square, W.C.

THURSDAY.—6 P.M., Lecture:—Dr. M. Dockrell: Treatment (Constitutional and Local in all its Forms).

CHARING CROSS HOSPITAL.

THURSDAY.—3 P.M., Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M., Demonstration:—Mr. Boyd: Surgical. (Post-Graduate Course).

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.

WEDNESDAY.—4 P.M. Lecture:—Dr. Habershon: Cases from the Wards.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, W.C.

THURSDAY.—4 P.M., Lecture:—Mr. Corner: Injuries and Diseases of the Epiphyses.

ROYAL INSTITUTION OF GREAT BRITAIN, Albemarle-street, Piccadilly, W.

TUESDAY.—3 P.M., Prof. W. Stirling: Membranes—their Structure, Uses, and Products.

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MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index and Title-page to Vol. II. of 1907, which was completed with the issue of Dec. 28th, were given in THE LANCET of Jan. 4th, 1908.

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